



BOARD MEETING AGENDA
Monday, September 23, 2019
Regular Meeting - 7:00 P.M.

Union Sanitary District
Administration Building
5072 Benson Road
Union City, CA 94587

Directors
Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers
Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

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|-------------|-----|--|--|
| | 1. | Call to Order. | |
| | 2. | Salute to the Flag. | |
| | 3. | Roll Call. | |
| Motion | 4. | Approve Minutes of the Board Meeting of September 9, 2019. | |
| | 5. | Written Communications. | |
| | 6. | Public Comment.
Public Comment is limited to three minutes per individual, with a maximum of 30 minutes per subject. If the comment relates to an agenda item, the speaker should address the Board at the time the item is considered. Speaker cards will be available in the Boardroom and are requested to be completed prior to the start of the meeting. | |
| Motion | 7. | Award the Construction Contract for the Headworks Screens Replacement Project to Kiewit Infrastructure West Co. <i>(to be reviewed by the Engineering and Information Technology Committee).</i> | |
| Motion | 8. | Authorize the General Manager to Execute an Agreement and Task Order No. 1 with Jacobs Engineering Group, Inc. for the Odor Control Pilot Study <i>(to be reviewed by the Engineering and Information Technology Committee).</i> | |
| Motion | 9. | Authorize the General Manager to Execute Task Order No. 2 with AECOM Technical Services, Inc. for the Centrifuge Building Improvements Project <i>(to be reviewed by the Engineering and Information Technology Committee).</i> | |
| Motion | 10. | Consider Approval of a License Agreement Between Union Sanitary District and Mango Materials <i>(to be reviewed by the Legal/Community Affairs Committee).</i> | |
| Information | 11. | Annual Report to Union City Fiscal Year 2019 <i>(to be reviewed by the Legislative Committee).</i> | |

Information	12.	Agreement with Carollo Engineers for General Engineering Services <i>(to be reviewed by the Engineering and Information Technology Committee)</i> .
Information	13.	Status of Priority 1 Capital Improvement Program Projects <i>(to be reviewed by the Engineering and Information Technology Committee)</i> .
Information	14.	Fourth Quarterly Report on the Capital Improvement Program for FY19 <i>(to be reviewed by the Engineering and Information Technology Committee)</i> .
Information	15.	Report on the East Bay Dischargers Authority (EBDA) Meeting of August 15, 2019.
Information	16.	Check Register.
Information	17.	<p>Committee Meeting Reports. <i>(No Board action is taken at Committee meetings):</i></p> <p>a. Engineering and Information Technology Committee – Wednesday, September 18, 2019, at 11:00 a.m.</p> <ul style="list-style-type: none"> • Director Toy and Director Fernandez <p>b. Legal/Community Affairs Committee – Friday, September 20, 2019, at 9:30 a.m.</p> <ul style="list-style-type: none"> • Director Fernandez and Director Handley <p>c. Legislative Committee – Friday, September 20, 2019, at 10:00 a.m.</p> <ul style="list-style-type: none"> • Director Kite and Director Handley <p>d. Audit Committee – will not meet.</p> <p>e. Budget & Finance Committee – will not meet.</p> <p>f. Personnel Committee – will not meet.</p>
Information	18.	General Manager’s Report. <i>(Information on recent issues of interest to the Board)</i> .
	19.	<p>Other Business:</p> <p>a. Comments and questions. <i>Directors can share information relating to District business and are welcome to request information from staff.</i></p> <p>b. Scheduling matters for future consideration.</p>
	20.	Adjournment – The Board will adjourn to a Special Meeting in the Alvarado Conference Room on Tuesday, September 24, 2019, at 5:30 p.m.
	21.	Adjournment – The Board will then adjourn to a Special Meeting in the Alvarado Conference Room on Tuesday, October 1, 2019, at 5:30 p.m.
	22.	Adjournment – The Board will then adjourn to a Special Meeting in the Alvarado Conference Room on Monday, October 7, 2019, at 6:00 p.m.
	21.	Adjournment – The Board will then adjourn to the next Regular Board Meeting in the Boardroom on Monday, October 14, 2019, at 7:00 p.m.
<p>The facilities at the District Offices are wheelchair accessible. Any attendee requiring special accommodations at the meeting should contact the General Manager’s office at (510) 477-7503 at least 24 hours in advance of the meeting.</p>		



**ENGINEERING AND INFORMATION TECHNOLOGY
COMMITTEE MEETING**

Committee Members: Director Toy and Director Fernandez

Directors

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

AGENDA

**Wednesday, September 18, 2019
11:00 A.M.**

**Alvarado Conference Room
5072 Benson Road
Union City, CA 94587**

1. Call to Order

2. Roll Call

3. Public Comment
Public Comment is limited to three minutes per individual, with a maximum of 30 minutes per subject. If the comment relates to an agenda item, the speaker should address the Board at the time the item is considered. Speaker cards will be available and are requested to be completed prior to the start of the meeting.

4. Items to be reviewed for the Regular Board meeting of September 23, 2019:
 - Award the Construction Contract for the Headworks Screens Replacement Project to Kiewit Infrastructure West Co.
 - Authorize the General Manager to Execute an Agreement and Task Order No. 1 with Jacobs Engineering Group, Inc. for the Odor Control Pilot Study
 - Authorize the General Manager to Execute Task Order No. 2 with AECOM Technical Services, Inc. for the Centrifuge Building Improvements Project
 - Agreement with Carollo Engineers for General Engineering Services
 - Status of Priority 1 Capital Improvement Program Projects
 - Fourth Quarterly Report on the Capital Improvement Program for FY19

5. Adjournment

Items reviewed at committee meetings will be included in the agenda packet for the upcoming Board meeting. No action will be taken at committee meetings.
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The facilities at the District Offices are wheelchair accessible. Any attendee requiring special accommodations at the meeting should contact the General Manager's office at (510) 477-7503 at least 24 hours in advance of the meeting.

This meeting is cancelled



LEGAL/COMMUNITY AFFAIRS COMMITTEE MEETING

Committee Members: Director Fernandez and Director Handley

Directors

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

AGENDA

~~Friday, September 20, 2019~~

~~9:30 A.M.~~

**Alvarado Conference Room
5072 Benson Road
Union City, CA 94587**

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

1. Call to Order

2. Roll Call

3. Public Comment

Public Comment is limited to three minutes per individual, with a maximum of 30 minutes per subject. If the comment relates to an agenda item, the speaker should address the Board at the time the item is considered. Speaker cards will be available and are requested to be completed prior to the start of the meeting.

4. Items to be reviewed for the Regular Board meeting of September 23, 2019:

- ~~Consider Approval of a License Agreement Between Union Sanitary District and Mango Materials~~

5. Adjournment

Items reviewed at committee meetings will be included in the agenda packet for the upcoming Board meeting.
No action will be taken at committee meetings.

The facilities at the District Offices are wheelchair accessible. Any attendee requiring special accommodations at the meeting should contact the General Manager's office at (510) 477-7503 at least 24 hours in advance of the meeting.



LEGISLATIVE COMMITTEE MEETING

Committee Members: Director Kite and Director Handley

Directors

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

AGENDA

Friday, September 20, 2019

10:00 A.M.

Alvarado Conference Room

5072 Benson Road

Union City, CA 94587

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

1. Call to Order

2. Roll Call

3. Public Comment

Public Comment is limited to three minutes per individual, with a maximum of 30 minutes per subject. If the comment relates to an agenda item, the speaker should address the Board at the time the item is considered. Speaker cards will be available and are requested to be completed prior to the start of the meeting.

4. Items to be reviewed for the Regular Board meeting of September 23, 2019:

- Annual Report to Union City for Fiscal Year 2019

5. Adjournment

Items reviewed at committee meetings will be included in the agenda packet for the upcoming Board meeting. No action will be taken at committee meetings.
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The facilities at the District Offices are wheelchair accessible. Any attendee requiring special accommodations at the meeting should contact the General Manager's office at (510) 477-7503 at least 24 hours in advance of the meeting.

**MINUTES OF THE MEETING OF THE
BOARD OF DIRECTORS OF
UNION SANITARY DISTRICT
September 9, 2019**

CALL TO ORDER

President Toy called the meeting to order at 7:00 p.m.

SALUTE TO THE FLAG

ROLL CALL

PRESENT: Jennifer Toy, President
Pat Kite, Secretary
Anjali Lathi, Director
Manny Fernandez, Director

ABSENT: Tom Handley, Vice President

STAFF: Paul Eldredge, General Manager/District Engineer
Karen Murphy, District Counsel
Sami Ghossain, Technical Services Manager
Armando Lopez, Treatment and Disposal Services Manager
James Schofield, Collection Services Manager
Robert Simonich, Fabrication, Maintenance, and Construction Manager
Gene Boucher, Human Resources Manager
Laurie Brenner, Business Services Coach
Mike Marzano, Environmental Health and Safety Program Manager
Karoline Terrazas, Organizational Performance Manager
Jason Yeates, Organizational Performance Coordinator
Regina McEvoy, Executive Assistant to the General Manager/Board Clerk

APPROVE MINUTES OF THE BOARD MEETING OF AUGUST 26, 2019

It was moved by Secretary Kite, seconded by Director Lathi, to Approve the Minutes of the Board Meeting of August 26, 2019. Motion carried with the following vote:

AYES: Fernandez, Kite, Lathi, Toy
NOES: None
ABSENT: Handley
ABSTAIN: None

BALANCED SCORECARD

This item was reviewed by the Legal/Community Affairs Committee.

- a. Fourth Quarter FY19 District-Wide Balanced Scorecard Measures and Annual Strategic Report – Organizational Performance Manager Terrazas provided an overview of the fourth quarter and annual Fiscal Year 2019 Balanced Scorecard included in the Board meeting packet.
- b. Balanced Scorecard for the Business Services Work Group – Business Services Coach Brenner introduced the item and stated the Business Services Work Group chose to highlight Human Resources for this report. Human Resources Manager Boucher presented information regarding recruitments at the District since 2013 which were included as charts in the Board meeting packet. Business Services Coach Brenner provided an overview of the Finance and Acquisition Services Team scorecard included in the Board meeting packet.

WRITTEN COMMUNICATIONS

There were no written communications.

PUBLIC COMMENT

There was no public comment.

AUTHORIZING THE GENERAL MANAGER TO EXECUTE AN AGREEMENT WITH HF&H, LLC TO PERFORM A NEW COST OF SERVICE ANALYSIS (COSA)

This item was reviewed by the Budget & Finance Committee. Business Services Coach Brenner stated the District recently entered year four of five from the last adopted Cost of Service Analysis (COSA). Upcoming projects have led staff to discuss the possibility of developing a new COSA sooner than previously scheduled. The Board discussed financing during recent Board Workshops and directed staff to issue a Request for Proposals (RFP). The District initiated a competitive RFP process and received one proposal from HF&H, LLC. The proposal met the criteria established, included the required scope of work, and staff believe the fee to be reasonable based upon the level of effort requested. Staff recommended the Board authorize the General Manager to Execute a Contract with HF&H to perform a financial analysis and propose options for a multi-year rate structure for the District.

It was moved by Secretary Kite, seconded by Director Fernandez, to Authorize the General Manager to Execute a Contract with HF&H, LLC to Perform a Financial Analysis and Propose Options for a Multi-Year Rate Structure for the District. Motion carried with the following vote:

AYES:	Fernandez, Kite, Lathi, Toy
NOES:	None
ABSENT:	Handley
ABSTAIN:	None

AUTHORIZING THE GENERAL MANAGER TO EXECUTE AN AGREEMENT WITH FIELDMAN, ROLAPP & ASSOCIATES FOR FINANCIAL ADVISORY SERVICES

This item was reviewed by the Budget & Finance Committee. Business Services Coach Brenner stated the Board approved the Enhanced Treatment and Site Upgrade (ETSU) program as the strategic roadmap for implementation of the District's long-term capital improvement program at the treatment plant. During the development of the ETSU program, the need for a comprehensive financing and debt strategy became apparent. Staff issued an RFP for a Financial Advisory firm and selected Fieldman, Rolapp & Associates after reviewing the bids received and interviewing the top two firms. During the current fiscal year, staff proposed these services be charged to the ETSU program budget. The expense will be moved to a special project fund to allow easier tracking of expenses in the future. Staff recommended the Board authorize the General Manager to execute a multi-year agreement not to exceed \$197,000 with Fieldman, Rolapp & Associates to provide financial advisory services to the District.

It was moved by Director Lathi, seconded by Secretary Kite, to Authorize the General Manager to Execute a Contract with Fieldman, Rolapp & Associates to Provide Financial Advisory Services Associated with the Development of a Long-Term Debt Management Strategy for the District. Motion carried with the following vote:

AYES: Fernandez, Kite, Lathi, Toy
NOES: None
ABSENT: Handley
ABSTAIN: None

INFORMATION ITEMS:

Check Register

Staff responded to Boardmember questions regarding the Check Register.

COMMITTEE MEETING REPORTS:

The Budget & Finance and Legal/Community Affairs Committees met.

GENERAL MANAGER'S REPORT:

General Manager Eldredge stated:

- General Manager Eldredge invited the Board to attend the Employee Recognition BBQ to be held at the District on September 18, 2019.
- General Manager Eldredge congratulated Ric Pipkin on his promotion to ETSU Manager and Curtis Bosick on his promotion to ETSU Coordinator.
- General Manager Eldredge will be out of the office September 10-16, 2019. Fabrication, Maintenance, and Construction Manager Simonich will be acting General Manager during this time.

OTHER BUSINESS:

Director Lathi announced that Vice President Handley would be attending East Bay Dischargers Authority meetings on her behalf due to a personal conflict.

ADJOURNMENT:

The meeting was adjourned at 7:17 p.m. to the next Regular Meeting in the Boardroom on Monday, September 23, 2019, at 7:00 p.m.

SUBMITTED:

ATTEST:

REGINA McEVOY
BOARD CLERK

PAT KITE
SECRETARY

APPROVED:

JENNIFER TOY
PRESIDENT

Adopted this 23rd day of September 2019

**Directors**

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 7**

TITLE: **Award the Construction Contract for the Headworks Screens Replacement Project to Kiewit Infrastructure West Co. (This is a *Motion Item*)**

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
 Sami E. Ghossain, Technical Services Work Group Manager
 Raymond Chau, CIP Team Coach
 Thomas Lam, Associate Engineer

Recommendation

Staff recommends the Board award the construction contract for the Headworks Screens Replacement Project (Project) to Kiewit Infrastructure West Co. (Kiewit) in the amount of \$1,822,115.

Previous Board Action

June 11, 2018, the Board authorized the General Manager to execute Task Order No. 2 with Woodard and Curran, Inc. (W&C) in the amount of \$108,552 to provide design services for the Headworks Screen No. 3 Project.

October 22, 2018, the Board authorized the General Manager to execute Amendment No. 1 to Task Order No. 2 with W&C in the amount of \$56,490 to provide additional design services to include replacement of the two existing mechanical screens in the Project.

May 13, 2019, the Board authorized the General Manager to execute Amendment No. 2 to Task Order No. 2 with W&C in the amount of \$40,613 to provide additional design services to evaluate the replacement of the existing screenings storage bins in the Project.

Background

The Headworks Building was constructed during the 1993 Plant Upgrade Project (Figure 1). It has two Parshall Flumes for the Plant's influent flow measurement and three screening channels. Two of these channels are currently equipped with mechanically raked climber-type bar screens with racks that have spacing of 3/8-inch (Mechanical Screen No. 1) and 3/4-inch (Mechanical Screen No. 2) apart. The third channel has a manual bar rack that has spacing of 3/4-inch spacing and is used to bypass the wastewater when one or both mechanical screens are out of service.

Due to age and wear, the condition of the two mechanical screens has deteriorated over time and maintenance has become more challenging. If staff needs to remove either mechanical screen from service for repairs, this would cause operational issues if the third channel needs to be put into manual service, especially during the wet weather season. As a result, staff decided to install a new mechanical screen in the third channel not only to increase the flow capacity and the reliability to handle the plant influent flow, but also provide redundancy to allow staff to take the screens out of service during peak flow conditions.

In August 2018, Mechanical Screen No. 1 failed. Staff repaired Screen No. 1 and placed it back into operation in October 2018. The mechanical components of both Screens No. 1 and 2 are reaching the end of their useful life, which was further reinforced by the failure. Due to the critical nature of the bar screens to the Plant's treatment processes and to avoid the similar costly repair of Mechanical Screen No. 2, staff decided to move up the replacement timeline for both Mechanical Screens No. 1 and 2 to be included in this Project. The Project was renamed the Headworks Screens Replacement Project in the final construction documents to reflect the amended project scope.

With the installation of the three new mechanical screens, more rags and debris or screenings will be removed, resulting in additional loading to the existing washer compactor and possibly increased odors. After evaluating various options, staff selected a larger, covered, self-contained trash compactor to mitigate the additional screenings odors and to increase the amount of screenings stored before being trucked for disposal.

Scope of Work

W&C completed the design in June 2019. The Project includes the following improvements:

1. Replacement of the existing manual bar rack with a multi-rake mechanical screen.
2. Replacement of the two existing raked climber-type bar screens with multi-rake mechanical screens.
3. Replacement of the existing flow sensors at the Parshall flume channels.
4. Replacement of the existing uncovered trash bins with two self-contained trash compactors.

The attached Figures 2 through 5 include photos of the existing equipment to be replaced during the Project.

Bid Results

The Project was advertised for bids on June 25, 2019. Two bids were received and opened on July 25, 2019 with the results shown as follows:

Contractor	Total Base Bid	Total Contract Price
Kiewit Infrastructure West Co. (Fairfield, CA)	\$1,816,115	\$1,552,115
TNT Industrial Contractors, Inc. (Sacramento, CA)	\$1,925,375	\$1,756,950

The Engineer's Estimate for the Total Base Bid of the Project is \$2,500,000. The award of the Project is based on the Total Contract Price, which is the sum of the Total Base Bid and Bid Alternates A and B. The Project scope in the Total Base Bid includes replacement of the two existing mechanical screens and installation of a new mechanical screen. Due to budget constraint, staff structured the bid to include Bid Alternate A as a deductive bid item to delete the replacement of one existing mechanical screen. Because of the reasonable bid price, staff recommends excluding Bid Alternate A from the construction contract so that both existing mechanical screens will be replaced.

Bid Alternate B is for providing Builder's Risk insurance coverage. Builder's risk insurance is a special type of property insurance that indemnifies against the loss of or damage to a building and equipment under construction. Kiewit submitted a bid amount of \$ 6,000 for this coverage. Staff recommends including Bid Alternate B in the construction contract.

Kiewit submitted the apparent low bid, which was 27.4 % lower than the Engineer's Estimate. Table 1 includes the bid tabulation sheet and shows detailed results from the two bids.

In its bid, Kiewit proposed a substitute manufacturer of the mechanical screens instead of the two listed manufacturers in the bid documents. However, prior to award, Kiewit is required to provide information from the substitute manufacturer that shows their equipment meets the requirements specified in the bid documents. Staff reviewed the mechanical screen information from the substitute manufacturer and determined the screen did not comply with the hydraulic performance requirements specified in the bid documents. If the hydraulic performance requirements of the screen are not met, it will negatively impact the flow into the Plant and potentially submerge the upstream Parshall flumes at the Headworks beyond their operational parameters. Therefore, staff rejected Kiewit's proposed substitution.

Per the bid documents, if the District determines the proposed substitution does not meet the requirements, the bidder's bid will be rejected unless the bidder agrees to furnish equipment from a listed manufacturer or submits an acceptable substitute without change in the bid price. Kiewit agreed to furnish the mechanical screen from one of the listed manufacturers without change to its bid price.

Staff reviewed the bid documents submitted by Kiewit and found them to be in order. No bid protests were received by the District. Kiewit has confirmed that they will construct the project as bid. Staff has checked Kiewit's project references and is satisfied with Kiewit's work performance.

The contractor has 392 calendar days to complete the Project from Notice to Proceed, which puts the estimated substantial completion date in October 2020. Staff will hire a consultant to provide construction management and inspection services for the Project.

Staff recommends the Board award the construction contract, including Bid Alternate B, for the Headworks Screens Replacement Project to Kiewit Infrastructure West Co. in the amount of \$1,822,115.

PRE/SEG/RC/TL;mb

Attachment: Figure 1 – Partial Site Plan
Figures 2 through 5 – Equipment Photos
Table 1 – Bid Tabulation Sheet
Contractor's Agreement



Figure 1 – Partial Site Plan - Headworks Building

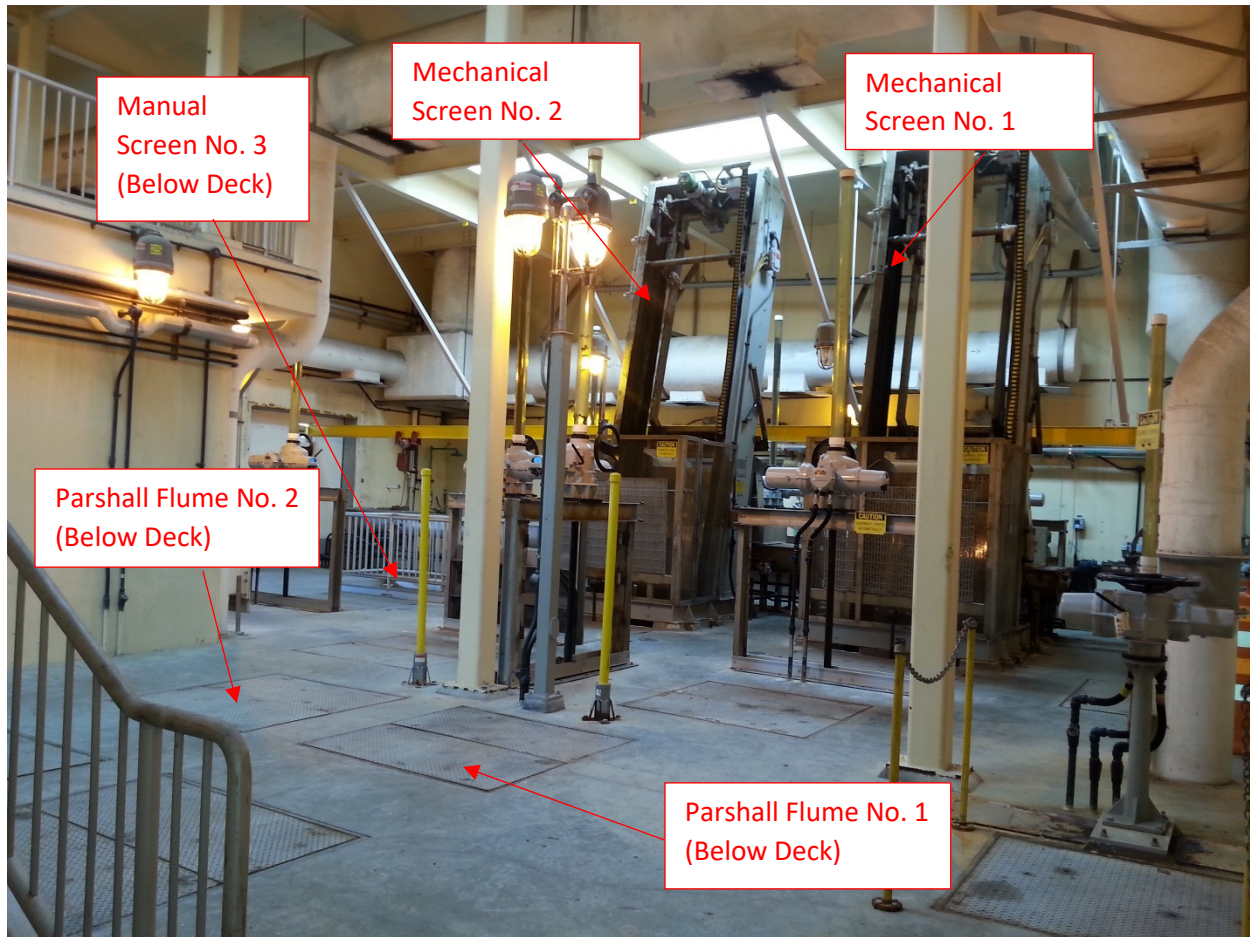


Figure 2 – Headworks Building Equipment



Figure 3 – Existing Headworks Screens No.1 and 2



Figure 4 - Existing Uncovered Trash Bin



Figure 5 - Self-Contained Trash Compactor

Table 1 - Bid Tabulation
Headworks Screens Replacement Project No. 900-502

Bid Item No.	Bid Item	Unit	Estimated Quantity	Kiewit Infrastructure West Co. (Fairfield CA)	TNT Industrial Contractors, Inc. (Sacramento, CA)
				Total Bid Price	
1	Cost for completing all Work included as part of Contract Documents for Project No. 900-502, except as specified under items 2 through 4, and the bid alternates.	LS	1	\$50,000	\$1,165,783
2	Installation of Mechanical Bar Screen Nos. 1, 2 and 3	LS	1	\$1,748,114	\$682,154
3	Spare rakes and racks	LS	1	\$18,000	\$75,023
4	Cost for providing all shoring and bracing on all Bid Items above including but not limited to that as required by Sections 6700-6708 of the Labor Code	LS	1	\$1	\$2,415
Total Base Bid				\$1,816,115	\$1,925,375
Bid Alternate A	Delete Mechanical Bar Screen No. 2 from the Work	LS	1	(\$270,000)	(\$228,425)
Bid Alternate B	Builder's Risk Insurance	LS	1	\$6,000	\$60,000
Contract Price (Total Base Bid - Bid Alternate A + Bid Alternate B) - This is the basis of award				\$1,552,115	\$1,756,950

Engineer's Estimate, Base Bid: \$2,500,000

AGREEMENT FOR THE CONSTRUCTION OF

Headworks Screens Replacement Project

Project No. 900-502

THIS AGREEMENT, made and concluded, in duplicate, this _____ day of September, 2019, between the UNION SANITARY DISTRICT ("District"), Union City, California, and KIEWIT INFRASTRUCTURE WEST CO. ("Contractor"), License No. 433176.

WITNESSETH:

1. That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the District, and under the conditions expressed in the two bonds, bearing even date with these presents, and hereunto annexed, the Contractor agrees with the District, at his/her own proper cost and expense, to do all the work and furnish all the materials necessary to construct and complete in good workmanlike and substantial manner the project entitled: **Headworks Screens Replacement Project (Project No. 900-502)** in strict conformity with the plans and specifications prepared therefor, which said plans and specifications are hereby specially referred to and by said reference made a part hereof.

2. Now, therefore, in consideration of the mutual covenants and agreements of the parties herein contained and to be performed, the Contractor hereby agrees to complete the work in accordance with the terms and conditions stipulated in the Contract Documents for the sum of one million eight hundred twenty two thousand one hundred and fifteen dollars (\$1,822,115) (the "Contract Price") computed in accordance with Contractor's accepted proposal dated July 25, 2019, which accepted proposal is incorporated herein by reference thereto as if herein fully set forth. This sum includes the following bid alternate that have been accepted by the District and are hereby incorporated in the Agreement: Bid Alternate B. Compensation shall be based upon the lump sum bid items plus the unit prices stated in the Bid Schedule times the actual quantities or units of work and materials performed or furnished. The further terms, conditions, and covenants of this Agreement are set forth in the Contract Documents, each of which is by this reference made a part hereof. Payments are to be made to the Contractor in accordance with the provisions of the Contract Documents and the Technical Specifications in legally executed and regularly issued warrants of the District, drawn on the appropriate fund or funds as required by law and order of the District thereof.

3. The District hereby promises and agrees with the said Contractor to employ, and does hereby employ, the said Contractor to provide the materials and to do the work according to the terms and conditions herein contained and referred to, for the Contract Price, and hereby contracts to pay the same at the time, in the manner and upon the conditions set forth in the Contract Documents; and the said parties for themselves, their heirs, executors, administrators, successors and assigns, do hereby agree to the full performance of the covenants herein contained.

4. The Contractor and any subcontractor performing or contracting any work shall comply with all applicable provisions of the California Labor Code for all workers, laborers and mechanics of all crafts, classifications or types, including, but necessarily limited to the following:

(a) The Contractor shall comply with all applicable provisions of Section 1810 to 1815, inclusive, of the California Labor Code relating to working hours. The Contractor shall, as a penalty to the District, forfeit the sum of twenty-five dollars (\$25) for each worker employed in the execution of the Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, unless such worker receives compensation for all hours worked in excess of eight (8) hours at not less than 1-1/2 times the basic rate of pay.

(b) Pursuant to the provision of California Labor Code, Sections 1770 et. seq., the Contractor and any subcontractor under him shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Pursuant to the provisions of California Labor Code Section 1773.2, the Contractor is hereby advised that copies of the prevailing rate of per diem wages and a general prevailing rate for holidays, Saturdays and Sundays and overtime work in the locality in which the work is to be performed for each craft, classification, or type of worker required to execute the Contract, are on file in the office of the District, which copies shall be made available to any interested party on request. The Contractor shall post a copy of said prevailing rate of per diem wages at each job site.

(c) As required by Section 1773.1 of the California Labor Code, the Contractor shall pay travel and subsistence payments to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with this Section.

(d) To establish such travel and subsistence payments, the representative of any craft, classification, or type of workman needed to execute the contracts shall file with the Department of Industrial Relations fully executed copies of collective bargaining agreements for the particular craft, classification or type of work involved. Such agreements shall be filed within 10 days after their execution and thereafter shall establish such travel and subsistence payments whenever filed 30 days prior to the call for bids.

(e) The Contractor shall comply with the provisions of Section 1775 of the California Labor Code and shall, as a penalty to the District, forfeit not more than two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of per diem wages for each craft, classification, or type of worker needed to execute the contract. The Contractor shall pay each worker an amount equal to the difference between the prevailing wage rates and the amount paid worker for each calendar day or portion thereof for which a worker was paid less than the prevailing wage rate.

(f) As required under the provisions of Section 1776 of the California Labor

Code, Contractor and each subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, and straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Said payroll shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2) A certified copy of all payroll records enumerated in Paragraph 4(f), herein, shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

(3) A certified copy of all payroll records enumerated in Paragraph 4(f), herein, shall be made available upon request by the public for inspection or for copies thereof; provided, however, that a request by the public shall be made through the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to subparagraph 4(e) herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal offices of the Contractor.

The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.

Certified payroll records shall be submitted electronically as required under California Labor Code Section 1776 to the Labor Commissioner pursuant to California Code of Regulations Chapter 8, Section 16404.

Each Contractor shall file a certified copy of the records, enumerated in Paragraph 4(f) with the entity that requested the records within 10 days after receipt of a written request. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the contract or performing the contract shall not be marked or obliterated. The Contractor shall inform the District of the location of the records enumerated under Paragraph 4(f) including the street address, city and county, and shall, within 5 working days, provide a notice of change of location and address. The

Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Paragraph 4(f). In the event that the Contractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or the District, forfeit one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Responsibility for compliance with Paragraph 4(f) lies with the Contractor.

(g) The Contractor and any subcontractors shall, when they employ any person in any apprenticeable craft or trade, apply to the joint apprenticeship committee administering the apprenticeship standards of the craft or trade in the area of the construction site for a certificate approving the Contractor or subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected; and shall comply with all other requirements of Section 1777.5 of the California Labor Code. The responsibility of compliance with California Labor Code Section 1777.5 during the performance of this contract rests with the Contractor. Pursuant to California Labor Code Section 1777.7, in the event the Contractor willfully fails to comply with the provisions of California Labor Code Section 1777.5, the Contractor shall be denied the right to bid on any public works contract for up to three (3) years from the date noncompliance is determined and be assessed civil penalties.

(h) In accordance with the provisions of Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860), and Chapter 4, Part 1, Division 4 (commencing with Section 3700) of the California Labor Code, the Contractor is required to secure the payment of compensation to its employees and for that purpose obtain and keep in effect adequate Workers' Compensation Insurance. If the Contractor, in the sole discretion of the District satisfies the District of the responsibility and capacity under the applicable Workers' Compensation Laws, if any, to act as self-insurer, the Contractor may so act, and in such case, the insurance required by this paragraph need not be provided.

The Contractor is advised of the provisions of Section 3700 of the California Labor Code, which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code and shall comply with such provisions and have Employer's Liability limits of \$1,000,000 per accident before commencing the performance of the work of this Contract.

The Notice to Proceed with the Work under this Contract will not be issued, and the Contractor shall not commence work, until the Contractor submits written evidence that it has obtained full Workers' Compensation Insurance coverage for all persons whom it employs or may employ in carrying out the work under this Contract. This insurance shall be in accordance with the requirements of the most current and applicable state Workers' Compensation Insurance Laws. In accordance with the provisions of Section 1861 of the California Labor Code, the Contractor in signing this agreement certifies to the District as true the following statement: "I am aware of the provisions of Section

3700 of the Labor Code which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract."

A subcontractor is not allowed to commence work on the project until verification of Workers' Compensation Insurance coverage has been obtained and verified by the Contractor and submitted to the Construction Manager for the District's review and records.

(i) In accordance with the provisions of Section 1727 of the California Labor Code, the District, before making payment to the Contractor of money due under a contract for public works, shall withhold and retain therefrom all wages and penalties which have been forfeited pursuant to any stipulation in the contract, and the terms of Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). But no sum shall be withheld, retained or forfeited, except from the final payment, without a full investigation by either the Division of Labor Standards Enforcement or by the District.

5. It is further expressly agreed by and between the parties hereto that should there be any conflict between the terms of this Agreement the instrument and the bid proposal of said Contractor, then this Agreement instrument shall control, and nothing herein contained shall be considered as an acceptance of the said terms of said proposal conflicting herewith.

6. The Contractor agrees to provide and maintain insurance coverage, and to indemnify and save harmless the parties named and in the manner set forth in Section 00800-2.0, **LIABILITY AND INSURANCE**, of the Supplementary General Conditions of the Specifications.

The duty of Contractor to indemnify and save harmless, as set forth herein, shall include a duty to defend as set forth in Section 2778 of the California Civil Code; provided, however, that nothing herein shall be construed to require Contractor to indemnify against any responsibility or liability in contravention of Section 2782 of the California Civil Code.

7. The Contractor shall diligently prosecute the work so that it shall be substantially completed within the time specified in Section 00800-1.1, **Time Allowed for Completion**.

8. Except as otherwise may be provided herein, Contractor hereby expressly guarantees for one (1) full year from the date of the substantial completion of the work under this agreement and acceptance thereof by the District, to repair or replace any part of the work performed hereunder which constitutes a defect resulting from the use of inferior or defective materials, equipment or workmanship. If, within said period, any repairs or replacements in connection with the work are, in the opinion of the District, rendered necessary as the result of the use of inferior or defective materials, equipment or workmanship, Contractor agrees, upon receipt of notice from District, and without expense to District, to promptly repair or replace such material or workmanship and/or correct any and all defects therein. If Contractor, after such notice, fails to proceed promptly to comply with the terms of this guarantee, District

may perform the work necessary to effectuate such correction and recover the cost thereof from the Contractor and/or its sureties.

In special circumstances where a particular item of work or equipment is placed in continuous service before substantial completion of the Work, the correction period for that item may start to run from an earlier date. This date shall be agreed upon in writing by the Contractor and District on or before the item is placed in continuous service.

Any and all other special guarantees which may be applicable to definite parts of the work under this agreement shall be considered as an additional guarantee and shall not reduce or limit the guarantee as provided by Contractor pursuant to this paragraph during the first year of the life of such guarantee.

9. The Contractor shall provide, on the execution of this Agreement, a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of the Contract Price, which bond shall be on the form provided by the District in Section 00610, **FORM OF PERFORMANCE BOND**, and be conditioned upon the faithful performance of all work required to be performed by the Contractor under this Agreement. Said bond shall be liable for any and all penalties and obligations which may be incurred by Contractor under this Agreement. The corporate surety bond shall be issued by a corporate surety that possesses a minimum rating from A. M. Best Company of A:VII and that is approved by the District. The corporate surety shall be authorized to conduct business in California. At its discretion, the District may request that a certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner of the State of California be submitted by the surety to the District. At its discretion, the District may also require the insurer to provide copies of its most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

10. In addition to the bond required under Paragraph 9, hereof, Contractor shall furnish a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of the Contract Price, which bond shall be on the form provided by the District in Section 00620, **PAYMENT BOND**, and conform strictly with the provisions of Sections 9550 et seq. of the Civil Code, and all amendments thereto. The corporate surety bond shall be issued by a corporate surety that possesses a minimum rating from A. M. Best Company of A:VII and that is approved by the District. The corporate surety shall be authorized to conduct business in California. At its discretion, the District may request that a certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner of the State of California be submitted by the surety to the District. At its discretion, the District may also require the insurer to provide copies of its most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

11. The Contractor may substitute securities for the amounts retained by the District to ensure performance of the work in accordance with the provisions of Section 22300 of the Public Contract Code.

12. The Contractor shall be provided the time period specified in Section 01340-2.0,

MATERIAL AND EQUIPMENT SUBSTITUTIONS, for submission of data substantiating a request for a substitution of an "or equal" item.

13. As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the Contract involves the excavation of any trench or trenches five feet or more in depth, the Contractor shall submit in advance of excavations, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Industrial Safety in Title 8, Subchapter 4, Article 6, California Code of Regulations, the plan shall be prepared by a registered civil or structural engineer employed by the Contractor, and all costs therefore shall be included in the price named in the Contract for completion of the work as set forth in the Contract Documents. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the District, the Design Consultant, Construction Manager or any of their agents, consultants, or employees. The District's review of the Contractor's excavation plan is only for general conformance to the California Construction Safety Orders.

Prior to commencing any excavation, the Contractor shall designate in writing to the Construction Manager the "competent person(s)" with the authority and responsibilities designated in the Construction Safety Orders.

14. In accordance with Section 7104 of the Public Contract Code, whenever any work involves digging trenches or other excavations that extend deeper than four feet below the surface, the provisions of Section 00700-7.2, **Differing Site Conditions**, shall apply.

15. In accordance with Section 7103.5 of the Public Contract Code, the Contractor and subcontractors shall conform to the following requirements. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act [Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code], arising from purchases of goods, materials or services pursuant to this Contract or the subcontract. Such assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

16. In accordance with Section 4552 of the Government Code, the Contractor shall conform to the following requirements. In submitting a bid to the District, the Contractor offers and agrees that if the bid is accepted, it will assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act [Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code], arising from purchase of goods, materials, or services by the Contractor for sale to the District pursuant to the bid. Such assignment shall be made and become effective at the time the District tenders final payment to the Contractor.

17. Pursuant to Public Contract Code Section 7100, the acceptance by the Contractor of an undisputed payment made under the terms of the Contract shall operate as, and shall be, a release to the District, and their duly authorized agents, from all claim of and/or liability to the Contractor arising by virtue of the contract related to those amounts. Disputed contract claims in stated amounts may be specifically excluded by the Contractor from the operation of the release.

18. In accordance with California Business and Professions Code Section 7030, the Contractor is required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 years of the date of the alleged violation. Any questions concerning the Contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

19. INDEMNIFICATION. To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the District from any claims, choses in action or lawsuits, whereby any subcontractor, material or equipment supplier, laborer or any person who supplies work or materials to said work of improvement may claim damages, losses and expenses thereto arising out of or resulting from any claim for performance of work, including the legal defense of any stop notice action as well as attorney fees and costs. District may be required to engage separate legal counsel from that of the Contractor should District and Contractor be both named as defendants, cross-defendants or other parties to any such stop notice action in District's sole discretion. Contractor shall be fully liable for any judgment or damages resulting from any claim for stop notice relief or other liability regarding payment for materials, supplies, labor or equipment under this contract. In claims against any person or entity indemnified under this paragraph by an employee of Contractor, a subcontractor, anyone directly or indirectly employed by them for whose acts they may be liable, the indemnification obligation under this paragraph shall not be limited in amount or type of damages, compensation or benefits payable by or for the Contractor or a subcontractor. In all cases, indemnification shall include attorney fees and court costs.

Unless arising solely out of the active negligence, gross negligence or willful misconduct of the District or the Design Consultant, the Contractor shall indemnify, defend and hold harmless: (1) the District and its Board of Directors, officers, employees, agents and representative; (ii) the Design Consultant and its consultants for the Work and their respective agents and employees; and (iii) if one is designated by the District for the work, the Construction Manager and its agents and employees (collectively "the Indemnified Parties"). The Contractor's obligations hereunder include indemnity, defense and hold harmless of the Indemnified Parties from and against any and all damages, losses, claims, demands or liabilities whether for damages, losses or other relief, including, without limitation attorney's fees and costs which arise, in whole or in part, from the Work, the Contract Documents or the acts, omissions or other conduct of the Contractor or any subcontractor or any person or entity engaged by them for the Work. The Contractor's obligations under the foregoing include without limitation: (i) injuries to or death of persons; (ii) damage to property; or (iii) theft or loss of property; (iv) stop notice claims asserted by any person or entity in connection with the Work; and (v) other losses, liabilities, damages or costs resulting from, in whole or part, any

acts, omissions or other conduct of Contractor, any of Contractor's Subcontractors, of any tier, or any other person or entity employed directly or indirectly by Contractor in connection with the Work and their respective agents, officers or employees. If any action or proceeding, whether judicial, administrative, arbitration or otherwise, shall be commenced on account of any claim, demand or liability subject to Contractor's obligations hereunder, and such action or proceeding names any of the Indemnified Parties as a party thereto, the Contractor, at its sole cost and expense, shall defend the District and the Design Consultant in such action or proceeding with counsel reasonably satisfactory to the Indemnified Parties named in such action or proceeding. In the event that there shall be any judgment, award, ruling, settlement, or other relief arising out of any such action or proceeding to which any of the Indemnified Parties are bound by, Contractor shall pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief. Contractor shall indemnify and hold harmless the Indemnified Parties from any and all liability or responsibility arising out of any such judgment, award, ruling, settlement or relief. The Contractor's obligations hereunder are binding upon Contractor's Performance Bond Surety and these obligations shall survive notwithstanding Contractor's completion of the Work or the termination of the Contract.

IN WITNESS WHEREOF, the parties hereto have executed this agreement this _____ day of September 2019.

KIEWIT INFRASTRUCTURE WEST CO.

By: _____

Eric M. Scott
Senior Vice President

Address: 4650 Business Center Drive, Fairfield, California 94534

UNION SANITARY DISTRICT

By: _____

Pat Kite
Board Secretary

Address: 5072 Benson Road, Union City, California 94587

ATTEST:

Karen Murphy
Attorney for Union Sanitary District

**Directors**

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 8**

TITLE: **Authorize the General Manager to Execute an Agreement and Task Order No. 1 with Jacobs Engineering Group, Inc. for the Odor Control Pilot Study (*This is a Motion Item*)**

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
Sami E. Ghossain, Technical Services Work Group Manager
Raymond Chau, CIP Team Coach
Somporn Boonsalat, Associate Engineer

Recommendation

Staff recommends the Board authorize the General Manager to execute an agreement and Task Order No. 1 with Jacobs Engineering Group, Inc. (Jacobs) in the amount of \$98,713 for the Odor Control Pilot Study.

Previous Board Action

January 9, 2017, the Board authorized the General Manager to execute an agreement and Task Order No. 1 with Jacobs (formerly CH2M Hill Engineers, Inc.) in the amount of \$139,801 for the Odor Control Alternatives Study to evaluate odor control technologies not identified in previous odor control studies.

February 26, 2018, the Board authorized the General Manager to execute Task Order No. 2 with Jacobs in the amount of \$190,033 for the Odor Control Alternatives Study to develop capital improvement costs at the Plant by implementing a source control program in the collection system. Jacobs also performed calculations and an assessment of the Plant to prepare for the Bay Area Air Quality Management District's (BAAQMD's) implementation of Rule 11-18.

July 23, 2018, the Board awarded the contract for a temporary calcium nitrate chemical feed system to Thatcher Company of California, Inc. in the amount of \$112,482.78 for the Odor Control Alternatives Study.

November 12, 2018, the Board authorized the General Manager to execute Task Order No. 3 with Jacobs in the amount of \$86,700 for the Odor Control Alternatives Study to perform an assessment of the Newark and Irvington Pump Stations to prepare for the BAAQMD's implementation of Rule 11-18

Background

The District constructed an odor scrubber system in the mid-1980s to mitigate air emissions at the Plant. The odor scrubber system consists of 18 atomized mist wet scrubber towers and a chemical delivery system that conveys sodium hypochlorite to the scrubber towers. The 18 scrubber towers have been in operation since constructed, though some upgrades have been made to the system. Figure 1 shows the locations of the existing scrubber towers, odor spray mist system, and odor wall.

In 2007, the District hired Brown and Caldwell to evaluate the odor scrubber system's effectiveness and overall condition. Brown and Caldwell completed two subsequent odor control studies in 2008 and 2014 that mainly focused on technologies that were similar to the existing technology the District was already using and fit within the constraints of the existing property.

Odor Control Alternatives Study

In 2017, the District hired Jacobs to conduct the Odor Control Alternatives Study, the goal of which was to provide the District other options to evaluate when considering any future odor control enhancements, if deemed necessary. During the study, Jacobs conducted air sampling, developed and ran a new dispersion model, and mainly focused on evaluating alternative odor control technologies not identified in previous odor control evaluations. Jacobs concluded the key odor sources at the Plant are the Headworks, Primary Clarifiers, and Aeration Basins.

The study also included sampling and modeling of the District's force mains conveying wastewater to the Plant. Through this effort, Jacobs found there was high septicity in the force main system in which promotes the production of hydrogen sulfides and volatile fatty acids (VFAs).

Jacobs evaluated both liquid phase and vapor phase treatment technologies. Two liquid phase treatment technologies, calcium nitrate and pure oxygen, were pilot tested in the force main system at the Newark Pump Station and Irvington Pump Station. The pilot tests showed that calcium nitrate was effective in sulfide reductions but resulted in increased scum build-up at the primary clarifiers. The injection of pure oxygen was discontinued shortly after commencement

due to the frequent release of oxygen gas from the force main air relief valves at the Newark Pump Station.

For the vapor phase treatment at the Plant, Jacobs evaluated a host of available technologies and found biofilter, biotower, single-stage packed tower chemical scrubber system, and carbon filter to be potentially viable for use at the Plant. Please refer to Figures 2 through 5 for schematics of these technologies.

Jacobs performed a cost benefit analysis of these technologies and ranked their effectiveness at each of the three wastewater processes that are the key odor sources at the Plant:

Plant Process	Vapor Phase Treatment Technologies			
	Biofilter	Biotower	Single-Stage Packed Tower Chemical Scrubber	Carbon
Headworks	1	2		
Primary Clarifiers	1		1	
Aeration Basins	1	2		2

Staff recommends conducting pilot tests of the vapor phase treatment technologies. This will allow staff to assess the effectiveness of each technology, gain practical experience in the operation of the equipment, and evaluate the operation and maintenance costs.

Odor Control Pilot Study – Task Order No. 1

Jacobs' scope of services in Task Order No. 1 of the Odor Control Pilot Study (Study) will include the following:

- Conduct a workshop with staff to review and assess the odor control technologies to consider for pilot at the Headworks, Primary Clarifiers, and Aeration Basins.
- Coordinate with equipment manufacturers/suppliers for equipment rental.
- Evaluate and recommend equipment, installation method, sample location, sample collection training, sample testing, and equipment monitoring requirements.
- Assist staff in implementing the pilot of odor control equipment.
- Develop testing procedures and criteria for evaluating and determining the most effective technology, including life-cycle cost analysis.
- Recommend the odor control technology for implementation at each process facility.

Jacobs' tasks and fee for Task Order No. 1 are summarized in the table below.

Task No.	Task Description	Fee
1	Project Kickoff	\$10,847
2	Pilot Selection Workshop	\$8,055
3	Pilot Implementation	\$19,001
4	Odor Sampling and Training	\$7,929
5	Odor Control Pilot Evaluation	\$16,812
6	Workshop to Present Findings, Conclusions and Recommendations	\$9,469
7	Draft and Final Pilot Study Report	\$15,800
8	Project Management	\$10,800
Total Not-to-Exceed Fee		\$98,713

Staff believes the total not-to-exceed fee is reasonable given the level of effort needed to complete the Study.

Staff anticipates the Study to be completed by the end of calendar year 2020.

Staff recommends the Board authorize the General Manager to execute an Agreement and Task Order No. 1 with Jacobs Engineering Group, Inc. in the amount of \$98,713 for the Odor Control Pilot Study.

PRE/SEG/RC/SB;mb

Attachments: Figure 1 – Odor Scrubber Locations
Figures 2 through 5 – Schematics of Odor Control Technologies
Agreement
Task Order No. 1

UNION SANITARY DISTRICT
ALVARADO WASTEWATER TREATMENT PLANT
FIGURE 1 - ODOR SCRUBBER LOCATIONS

NO SCALE

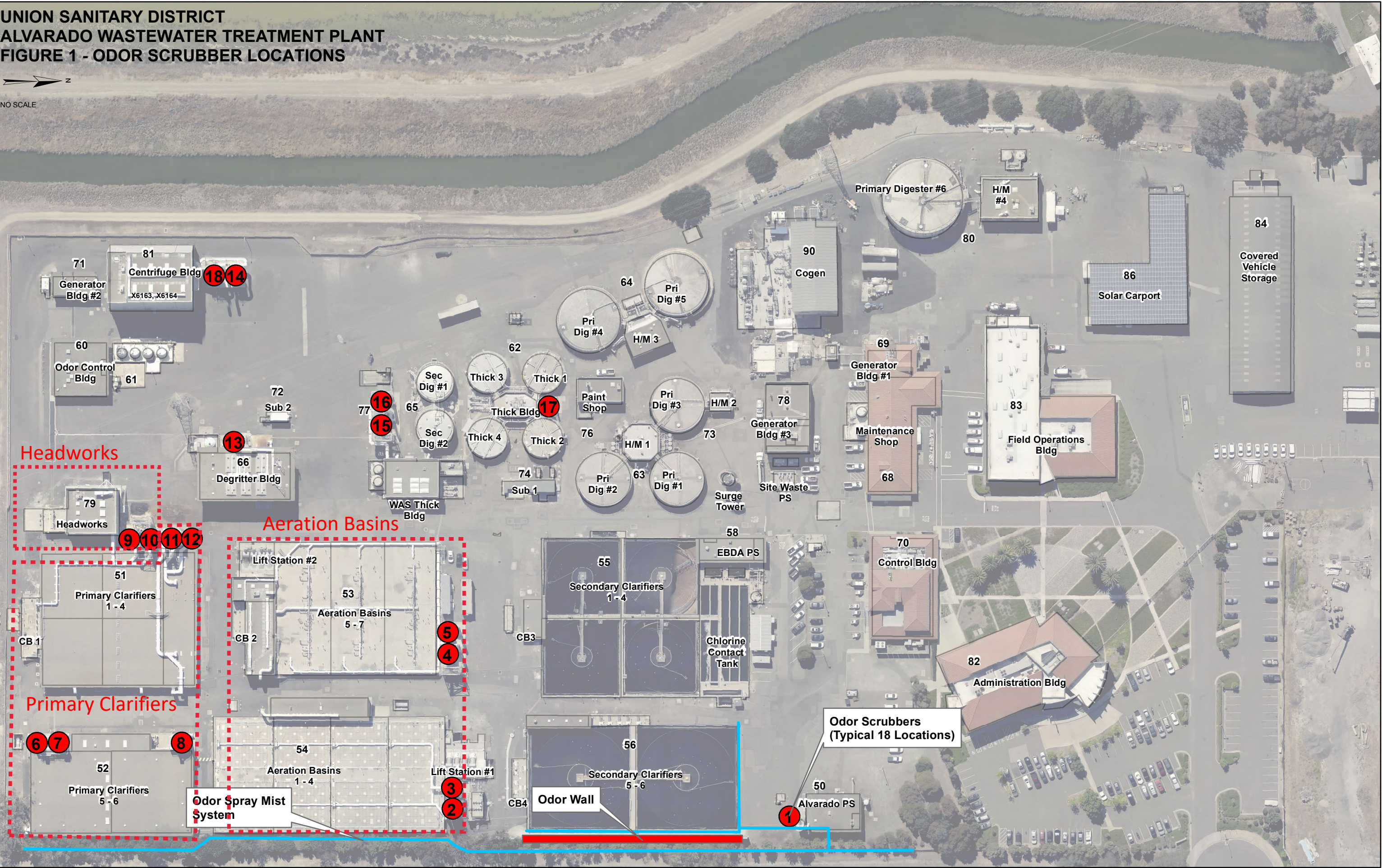


Figure 2 – Typical Biofilter

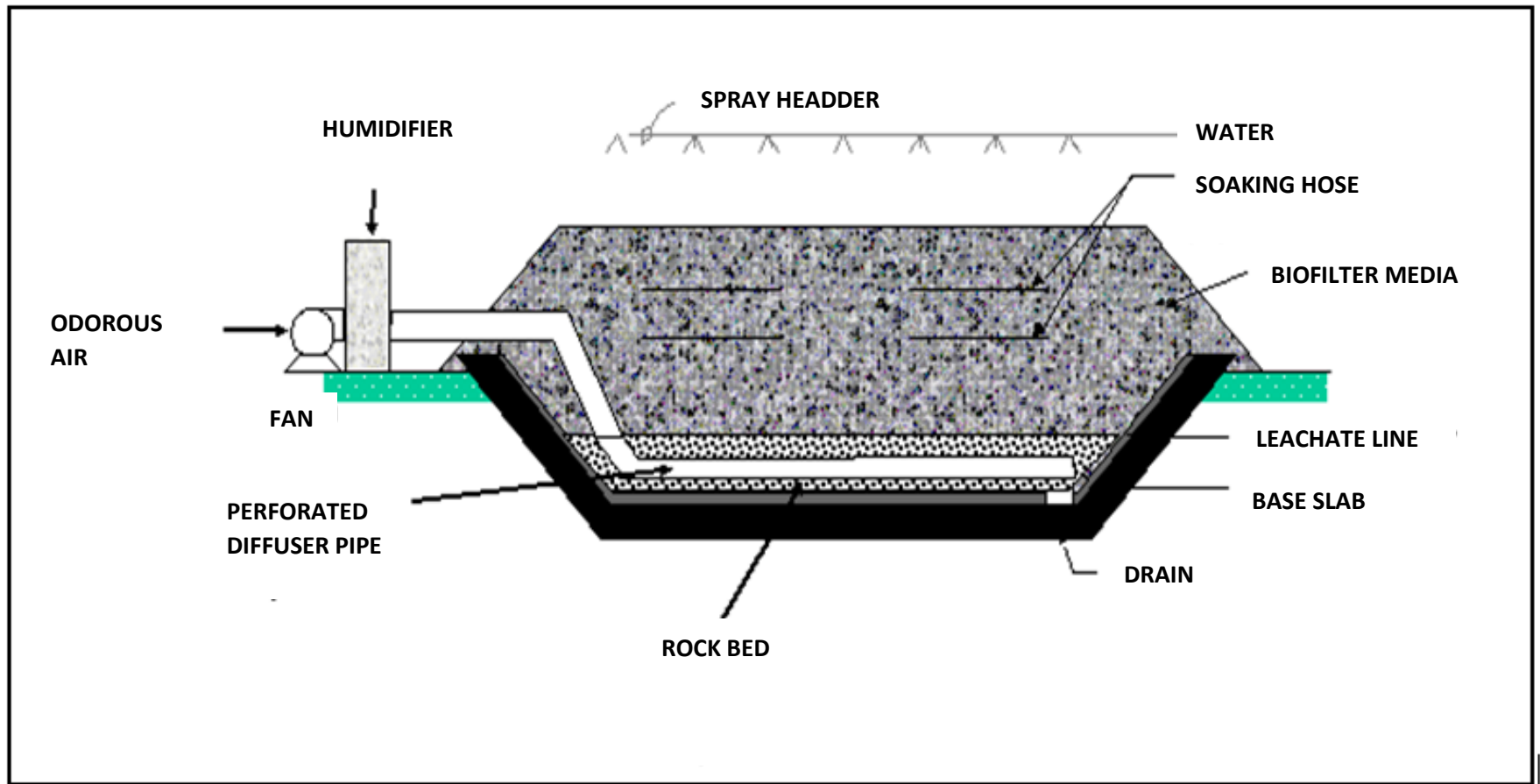


Figure 3 – Typical Biotower

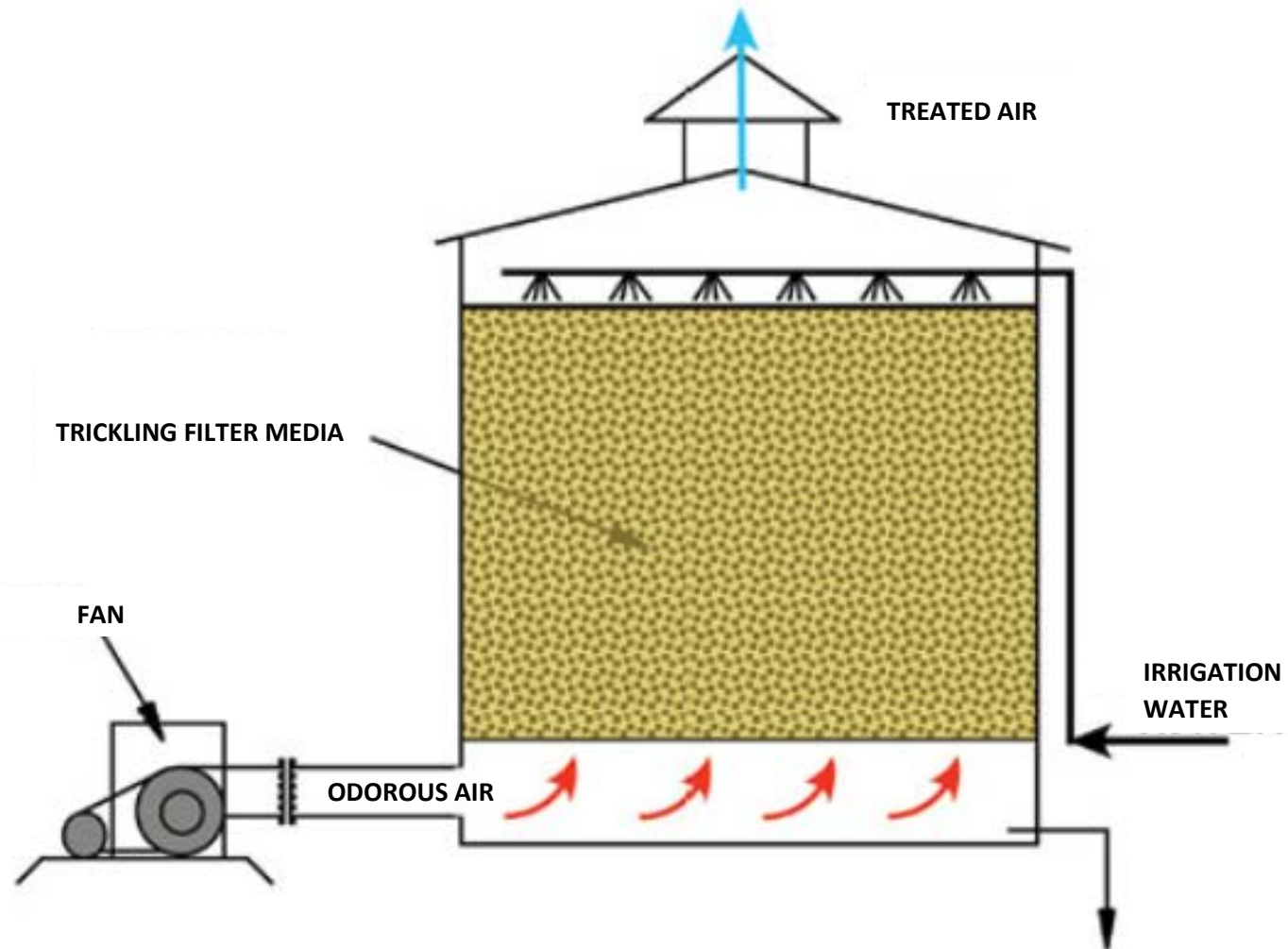


Figure 4 – Typical Packed Tower Chemical Wet Scrubber

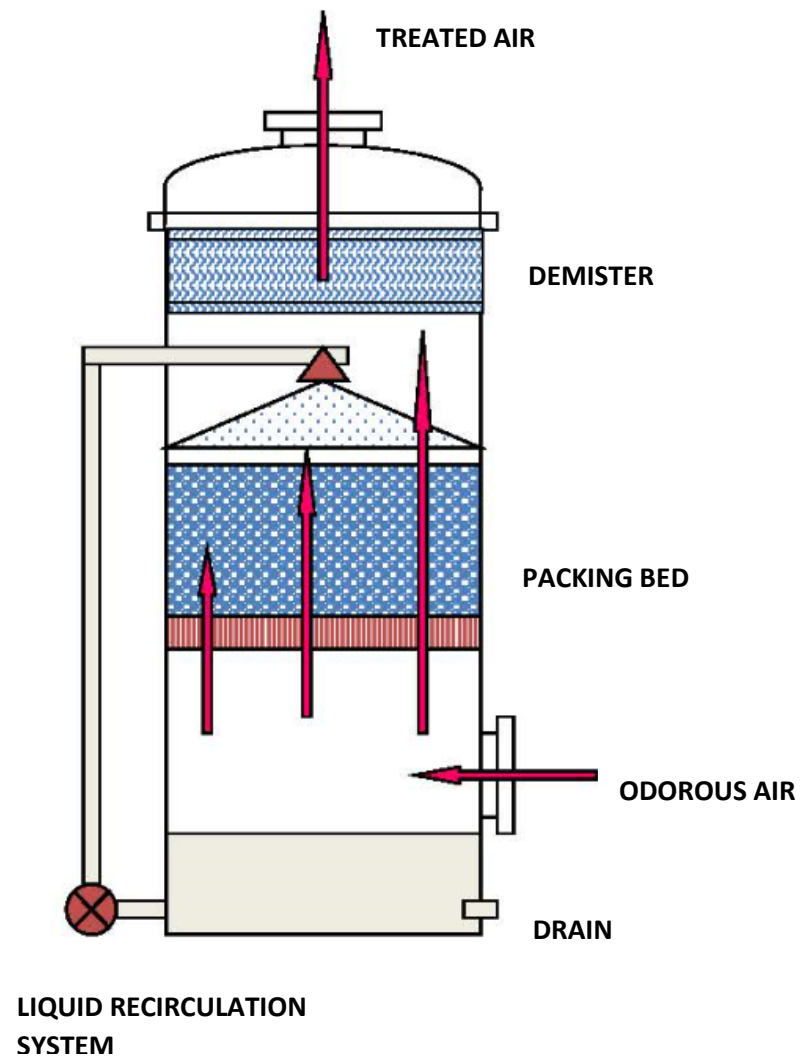
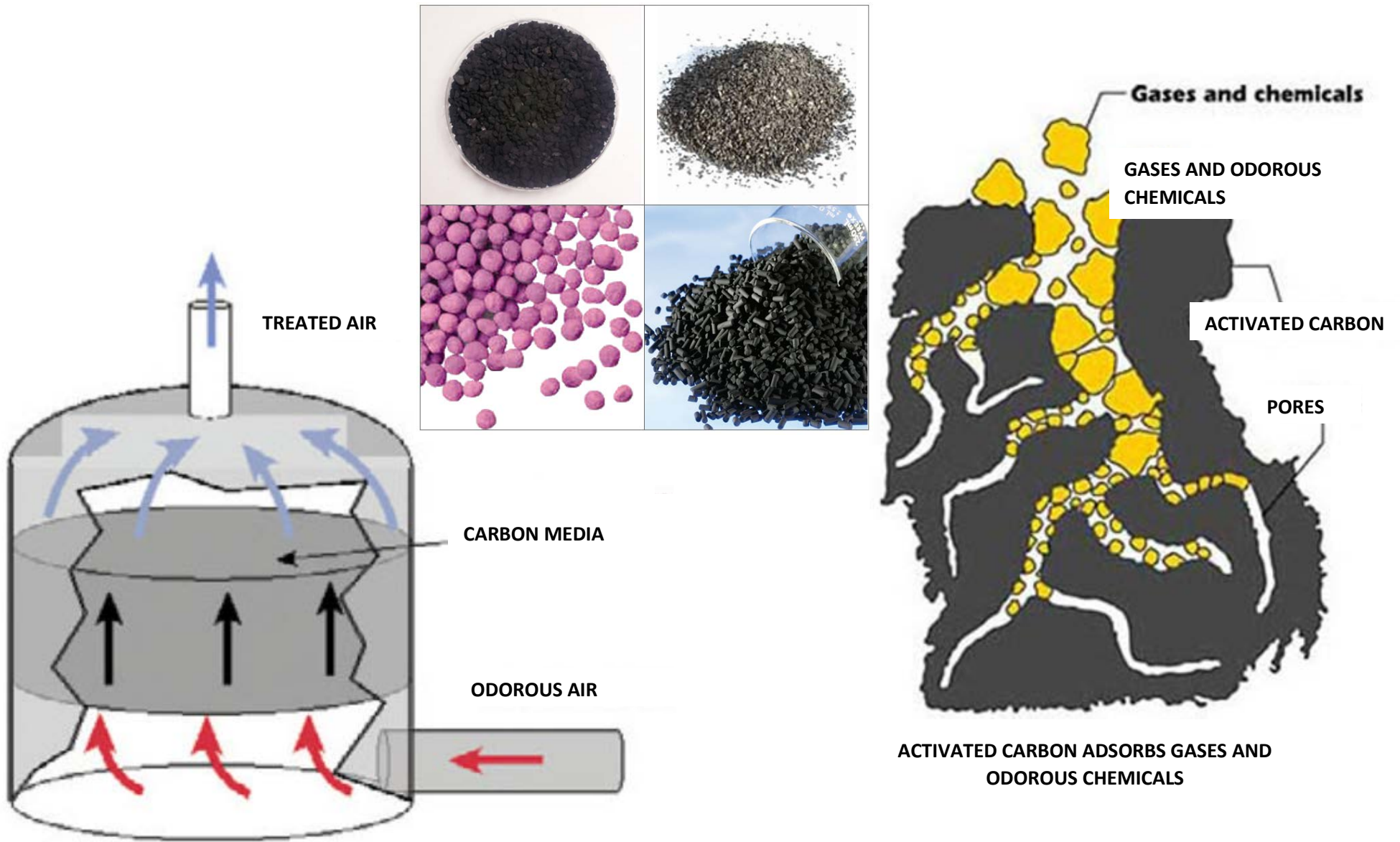


Figure 5 – Typical Carbon Filter



ODOR CONTROL PILOT STUDY
AGREEMENT
BETWEEN
UNION SANITARY DISTRICT
AND
JACOBS ENGINEERING GROUP INC.
FOR
PROFESSIONAL SERVICES

THIS IS AN AGREEMENT MADE AS OF _____, 20__,
BETWEEN UNION SANITARY DISTRICT (hereinafter referred to as District), and
JACOBS ENGINEERING GROUP INC. (hereinafter referred to as Engineer).

WITNESSETH:

WHEREAS, District intends to conduct the Odor Control Pilot Study (hereinafter referred to as Project), and,

WHEREAS, District requires certain professional services in connection with the Project (hereinafter referred as Services); and

WHEREAS, Engineer is qualified and prepared to provide such Services;

NOW, THEREFORE, in consideration of the promises contained herein, the parties agree as follows:

ARTICLE 1 - SERVICES TO BE PERFORMED BY ENGINEER

- 1.1 Specific Services and the associated scope of services, payment, schedule, and personnel will be defined in specific Task Order as mutually agreed by District and Engineer.
- 1.2 All Task Orders will by reference incorporate the terms and conditions of this Agreement, and become formal amendments hereto.

ARTICLE 2 - COMPENSATION

- 2.1 Compensation for consulting services performed under this Agreement shall include:

- (1) Direct labor costs, multiplied by an agreed upon fixed factor (the Multiplier), to compensate for fringe benefits, indirect costs, and profit.
- (2) Non-labor direct project charge not included in the fixed factor and acceptable, without any markup.
- (3) Subconsultant costs, with a maximum markup of 5%.

Definitions are as follows:

- (a) Direct labor is salaries and wages paid to personnel for time directly chargeable to the project. Direct labor does not include the cost of Engineer's statutory and customary benefits, such as sick leave, holidays, vacations, and medical and retirement benefits nor the cost of the time of executive and administrative personnel and others whose time is not identifiable to the project.
- (b) Fringe benefits include Engineer's statutory and customary benefits, such as sick leave, holidays, vacations, medical and retirement benefits, incentive pay, tuition, and other costs classified as employee benefits.
- (c) Indirect costs are allocations of costs that are not directly chargeable to a specific engagement and are commonly referred to as Engineer's overhead. Indirect costs include provisions for such things as clerical support, office space, light and heat, insurance, statutory and customary employee benefits, and the time of executive and administrative personnel and others whose time is not identifiable to the Project or to any other project. Under no circumstances can the same labor costs be charged as direct labor and also appear at the same time as indirect costs, and vice versa.
- (d) The Multiplier is a multiplicative factor which is applied to direct labor costs, and compensates Engineer for fringe benefits and indirect costs (overhead) and profit.
- (e) Other non-labor direct project charges shall be included in the overhead and these charges include typical expenses as cost of transportation and subsistence, printing and reproduction, computer time and programming costs, identifiable supplies, outside consultant's charges, subcontracts, and charges by reviewing authorities."

Alternatively, the District and the Engineer may agree to utilize the fully-encumbered hourly rates and fees for Services performed by the Engineer. These hourly rates and fees shall be based on the Engineer's rate schedule published at the time this Agreement or Task Order is executed and shall be attached to each applicable Task Order.

- 2.2 Reimbursement for mileage shall not exceed the prevailing Internal Revenue Service's standard mileage rate.
- 2.3 A *Cost Ceiling* will be established for each Task Order which is based upon estimated labor-hours and cost estimates. Costs as described above, comprising direct labor, overhead cost, and other direct costs, shall be payable up to a Cost Ceiling as specified in the Task Order. A *Maximum Fee Ceiling*, or *Task Order Firm Ceiling*, will also be established for each Task Order which includes the Cost Ceiling plus the Professional Fee.
- 2.4 Engineer shall invoice District monthly for the actual costs incurred, and a pro-rated portion of the Professional Fee for work performed during the previous month. If the Maximum Fee Ceiling is reached, the Engineer will complete the agreed-upon work for the Maximum Fee Ceiling. With District staff approval, labor hours may be reallocated within the tasks without renegotiation in such a manner so as not to exceed the Maximum Fee Ceiling.
- 2.5 The Engineer shall provide the District with a review of the budget amounts when 75 percent of the Cost Ceiling for any task has been expended. Engineer may request a revision in the Cost Ceiling for performance of this Agreement, and will relate the rationale for the revision to the specific basis of estimate as defined in the Scope of Services. Such notification will be submitted to the District at the earliest possible date. The authorized Cost Ceiling shall not be exceeded without written approval of the District.
- 2.6 The Professional Fee will not be changed except in the case of a written amendment to the Agreement which alters the Scope of Services. District and Engineer agree to negotiate an increase or decrease in Cost Ceiling and Professional Fee for any change in Scope of Services required at any time during the term of this Agreement. Engineer will not commence work on the altered Scope of Services until authorized by District.
- 2.7 Direct labor rates are subject to revision to coincide with Engineer's normal salary review schedule. Adjustments in direct labor rates shall not affect the firm ceiling without prior written authorization of the District.

- 2.8 District shall pay Engineer in accordance with each Task Order for Services.
- 2.9 Engineer shall submit monthly statements for Services rendered. District will make prompt monthly payments in response to Engineer's monthly statements.

ARTICLE 3 - PERIOD OF SERVICE

- 3.1 Engineer's services will be performed and the specified services rendered and deliverables submitted within the time period or by the date stipulated in each Task Order.
- 3.2 Engineer's services under this Agreement will be considered complete when the services are rendered and/or final deliverable is submitted and accepted by District.
- 3.3 If any time period within or date by which any of the Engineer's services are to be completed is exceeded through no fault of Engineer, all rates, measures and amounts of compensation and the time for completion of performance shall be subject to equitable adjustment.

ARTICLE 4 - DISTRICT'S RESPONSIBILITIES

District will do the following in a timely manner so as not to delay the services of Engineer.

- 4.1 Provide all criteria and full information as to District's requirements for the services assignment and designate in writing a person with authority to act on District's behalf on all matters concerning the Engineer's services.
- 4.2 Furnish to Engineer all existing studies, reports and other available data pertinent to the Engineer's services, obtain or authorize Engineer to obtain or provide additional reports and data as required, and furnish to Engineer services of others required for the performance of Engineer's services hereunder, and Engineer shall be entitled to use and rely upon all such information and services provided by District or others in performing Engineer's services under this Agreement.
- 4.3 Arrange for access to and make all provisions for Engineer to enter upon public and private property as required for Engineer to perform services hereunder.

- 4.4 Perform such other functions as are indicated in each Task Order related to duties of District.
- 4.5 Bear all costs incident to compliance with the requirements of this Section.

ARTICLE 5 - STANDARD OF CARE

- 5.1 Engineer shall exercise the same degree of care, skill, and diligence in the performance of the Services as is ordinarily provided by a professional Engineer under similar circumstance and Engineer shall, at no cost to District, re-perform services which fail to satisfy the foregoing standard of care.

ARTICLE 6 - OPINIONS OF COST AND SCHEDULE

- 6.1 Since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over contractors', subcontractors' , or vendors' methods of determining prices, or over competitive bidding or market conditions or economic conditions, Engineer's cost estimate and economic analysis shall be made on the basis of qualification and experience as a professional engineer.
- 6.2 Since Engineer has no control over the resources provided by others to meet contract schedules, Engineer's forecast schedules shall be made on the basis of qualification and experience as a professional Engineer.
- 6.3 Engineer cannot and does not guarantee that proposals, bids or actual project costs will not vary from his cost estimates or that actual schedules will not vary from his forecast schedules.

ARTICLE 7 - SUBCONTRACTING

- 7.1 No subcontract shall be awarded by Engineer until prior written approval is obtained from the District.

ARTICLE 8 - ENGINEER-ASSIGNED PERSONNEL

- 8.1 Engineer shall designate in writing an individual to have immediate responsibility for the performance of the services and for all matters relating to performance under this Agreement. Key personnel to be assigned by Engineer will be stipulated in each Task Order. Substitution

of any assigned person shall require the prior written approval of the District, which shall not be unreasonably withheld. If the District determines that a proposed substitution is not responsible or qualified to perform the services then, at the request of the District, Engineer shall substitute a qualified and responsible person.

ARTICLE 9 - OWNERSHIP OF DOCUMENTS

- 9.1 All work products, drawings, data, reports, files, estimate and other such information and materials (except proprietary computer programs, including source codes purchased or developed with Engineer monies) as may be accumulated by Engineer to complete services under this Agreement shall be owned by the District.
- 9.2 Engineer shall retain custody of all project data and documents other than deliverables specified in each Task Order, but shall make access thereto available to the District at all reasonable times the District may request. District may make and retain copies for information and reference.
- 9.3 All deliverables and other information prepared by Engineer pursuant to this Agreement are instruments of service in respect to this project. They are not intended or represented to be suitable for reuse by District or others on extensions of this Project or on any other project. Any reuse without written verification or adaptation by Engineer for the specific purpose intended will be at District's sole risk and without liability or legal exposure to Engineer; and District shall indemnify and hold harmless Engineer against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from such reuse. Any such verification or adaptation will entitle Engineer to further compensation at rates to be agreed upon by District and Engineer.

ARTICLE 10 - RECORDS OF LABOR AND COSTS

- 10.1 Engineer shall maintain for all Task Orders, records of all labor and costs used in claims for compensation under this Agreement. Records shall mean a contemporaneous record of time for personnel; a methodology and calculation of the Multiplier for fringe benefits and indirect costs; and invoices, time sheets, or other factors used as a basis for determining other non-labor Project charges. These records must be made available to the District upon reasonable notice of no more than 48 hours during the period of the performance of this Agreement.

- 10.2 After delivery of Services (completion of Task Orders) under this Agreement, the Engineer's records of all costs used in claims for compensation under this Agreement shall be available to District's accountants and auditors for inspection and verification. These records will be maintained by Engineer and made reasonably accessible to the District for a period of three (3) years after completion of Task Orders under this Agreement.
- 10.3 Engineer agrees to cooperate and provide any and all information concerning the Project costs which are a factor in determining compensation under this Agreement as requested by the District or any public agency which has any part in providing financing for, or authority over, the Services which are provided under the Agreement.
- 10.4 Failure to provide documentation or substantiation of all Project costs used as a factor in compensation paid under Article 2 hereof will be grounds for District to refuse payment of any statement submitted by the Engineer and for a back charge for any District funds, including interest from payment; or grant, matching, or other funds from agencies assisting District in financing the Services specified in this Agreement.

ARTICLE 11 - INSURANCE

Engineer shall provide and maintain at all times during the performance of the Agreement the following insurances:

- 11.1 Workers' Compensation and Employer's Liability Insurance for protection of Engineer's employees as required by law and as will protect Engineer from loss or damage because of personal injuries, including death to any of his employees.
- 11.2 Comprehensive Automobile Liability Insurance. Engineer agrees to carry a Comprehensive Automobile Liability Policy providing bodily injury liability. This policy shall protect Engineer against all liability arising out of the use of owned or leased automobiles both passenger and commercial. Automobiles, trucks, and other vehicles and equipment (owned, not owned, or hired, licensed or unlicensed for road use) shall be covered under this policy. Limits of liability for Comprehensive Automobile Liability Insurance shall not be less than \$1,000,000 Combined Single Limit.
- 11.3 Comprehensive General Liability Insurance as will protect Engineer and District from any and all claims for damages or personal injuries, including death, which may be suffered by persons, or for damages to or destruction to the property of others, which may arise from the

Engineer's operations under this Agreement, which insurance shall name the District as additional insured. Said insurance shall provide a minimum of \$1,000,000 Combined Single Limit coverage for personal injury, bodily injury, and property damage for each occurrence and aggregate. Such insurance will insure Engineer and District from any and all claims arising from the following:

1. Personal injury;
2. Bodily injury;
3. Property damage;
4. Broad form property damage;
5. Independent contractors;
6. Blanket contractual liability.

11.4 Engineer shall maintain a policy of professional liability insurance, protecting it against claims arising out of negligent acts, errors, or omissions of Engineer pursuant to this Agreement, in an amount of not less than \$1,000,000. The said policy shall cover the indemnity provisions under this Agreement.

11.5 Engineer agrees to maintain such insurance at Engineer's expense in full force and effect in a company or companies satisfactory to the District. All coverage shall remain in effect until completion of the Project.

11.6 Engineer will furnish the District with certificates of insurance and endorsements issued by Engineer's insurance carrier and countersigned by an authorized agent or representative of the insurance company. The certificates shall show that the insurance will not be cancelled without at least thirty (30) days' prior written notice to the District. The certificates for liability insurance will show that liability assumed under this Agreement is included. The endorsements will show the District as an additional insured on Engineer's insurance policies for the coverage required in Article 11 for services performed under this Agreement, except for workers' compensation and professional liability insurance.

11.7 Waiver of Subrogation: Engineer hereby agrees to waive subrogation which any insurer of Engineer may acquire from Engineer by virtue of the payment of any loss. Engineer agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the District for all work performed by the Engineer, its employees, agents and subconsultants.

ARTICLE 12 - LIABILITY AND INDEMNIFICATION

- 12.1 Having considered the risks and potential liabilities that may exist during the performance of the Services, and in consideration of the promises included herein, District and Engineer agree to allocate such liabilities in accordance with this Article 12. Words and phrases used in this Article shall be interpreted in accordance with customary insurance industry usage and practice.
- 12.2 Engineer shall indemnify and save harmless the District and all of their agents, officers, and employees from and against all claims, demands, or causes of action of every name or nature to the extent caused by the negligent error, omission, or act of Engineer, its agents, servants, or employees in the performance of its services under this Agreement. In no event shall Engineer's costs to defend the District exceed the Engineer's proportionate percentage of negligence or fault, based upon a final judicial determination, except that if one or more defendants in an action are unable to pay its share of defense costs due to bankruptcy or dissolution, Engineer shall meet and confer with the other defendant parties regarding defense costs.
- 12.3 In the event an action for damages is filed in which negligence is alleged on the part of District and Engineer, Engineer agrees to defend District. In the event District accepts Engineer's defense, District agrees to indemnify and reimburse Engineer on a pro rata basis for all expenses of defense and any judgment or amount paid by Engineer in resolution of such claim. Such pro rata share shall be based upon a final judicial determination of proportionate negligence or, in the absence of such determination, by mutual agreement.
- 12.4 Engineer shall indemnify District against legal liability for damages arising out of claims by Engineer's employees. District shall indemnify Engineer against legal liability for damages arising out of claims by District's employees.
- 12.5 Indemnity provisions will be incorporated into all Project contractual arrangements entered into by District and will protect District and Engineer to the same extent.
- 12.6 Upon completion of all services, obligations and duties provided for in the Agreement, or in the event of termination of this Agreement for any reason, the terms and conditions of this Article shall survive.
- 12.7 To the maximum extent permitted by law, Engineer's liability for District's damage will not exceed the aggregate compensation received by Engineer under this Agreement or the maximum amount of professional

liability insurance as required in Article 11.4 or \$5,000,000, whichever is greater.

ARTICLE 13 - INDEPENDENT CONTRACTOR

Engineer undertakes performance of the Services as an independent contractor and shall be wholly responsible for the methods of performance. District will have no right to supervise the methods used, but District will have the right to observe such performance. Engineer shall work closely with District in performing Services under this Agreement.

ARTICLE 14 - COMPLIANCE WITH LAWS

In performance of the Services, Engineer will comply with applicable regulatory requirements including federal, state, and local laws, rules, regulations, orders, codes, criteria and standards. Engineer shall procure the permits, certificates, and licenses necessary to allow Engineer to perform the Services. Engineer shall not be responsible for procuring permits, certificates, and licenses required for any construction unless such responsibilities are specifically assigned to Engineer in Task Order.

ARTICLE 15 - NONDISCLOSURE OF PROPRIETARY INFORMATION

Engineer shall consider all information provided by District and all drawings, reports, studies, design calculations, specifications, and other documents resulting from the Engineer's performance of the Services to be proprietary unless such information is available from public sources. Engineer shall not publish or disclose proprietary information for any purpose other than the performance of the Services without the prior written authorization of District or in response to legal process.

ARTICLE 16 - TERMINATION OF CONTRACT

- 16.1 The obligation to continue Services under this Agreement may be terminated by either party upon seven days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.
- 16.2 District shall have the right to terminate this Agreement or suspend performance thereof for District's convenience upon written notice to Engineer, and Engineer shall terminate or suspend performance of Services on a schedule acceptable to District. In the event of termination or suspension for District's convenience, District will pay Engineer for all

services performed and costs incurred including termination or suspension expenses. Upon restart of a suspended project, equitable adjustment shall be made to Engineer's compensation.

ARTICLE 17 - UNCONTROLLABLE FORCES

- 17.1 Neither District nor Engineer shall be considered to be in default of this Agreement if delays in or failure of performance shall be due to uncontrollable forces, the effect of which, by the exercise of reasonable diligence, the nonperforming party could not avoid. The term "uncontrollable forces" shall mean any event which results in the prevention or delay of performance by a party of its obligations under this Agreement and which is beyond the control of the nonperforming party. It includes, but is not limited to, fire, flood, earthquake, storms, lightening, epidemic, war, riot, civil disturbance, sabotage, inability to procure permits, licenses, or authorizations from any state, local, or federal agency or person for any of the supplies, materials, accesses, or services required to be provided by either District or Engineer under this Agreement, strikes, work slowdowns or other labor disturbances, and judicial restraint.
- 17.2 Neither party shall, however, be excused from performance if nonperformance is due to uncontrollable forces which are removable or remediable, and which the nonperforming party could have, with the exercise of reasonable diligence, removed or remedied with reasonable dispatch. The provisions of this Article shall not be interpreted or construed to require Engineer or District to prevent, settle, or otherwise avoid a strike, work slowdown, or other labor action. The nonperforming party shall, within a reasonable time of being prevented or delayed from performance by an uncontrollable force, give written notice to the other party describing the circumstances and uncontrollable forces preventing continued performance of the obligations of this Agreement. The Engineer will be allowed reasonable negotiated extension of time or adjustments for District initiated temporary stoppage of services.

ARTICLE 18 - MISCELLANEOUS

- 18.1 A waiver by either District or Engineer of any breach of this Agreement shall not be binding upon the waiving party unless such waiver is in writing. In the event of a written waiver, such a waiver shall not affect the waiving party's rights with respect to any other or further breach.
- 18.2 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or

provision of this Agreement void, shall in no way effect the validity or enforceability of any other portion or provision of the Agreement. Any void provision shall be deemed severed from the Agreement and the balance of the Agreement shall be construed and enforced as if the Agreement did not contain the particular portion or provision held to be void.

ARTICLE 19 - INTEGRATION AND MODIFICATION

- 19.1 This Agreement (consisting of pages 1 to 14), together with all Task Orders executed by the undersigned, is adopted by District and Engineer as a complete and exclusive statement of the terms of the Agreement between District and Engineer. This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters, or other communications between the District and Engineer pertaining to the Services, whether written or oral.
- 19.2 The Agreement may not be modified unless such modifications are evidenced in writing signed by both District and Engineer.

ARTICLE 20 - SUCCESSORS AND ASSIGNS

- 20.1 District and Engineer each binds itself and its directors, officers, partners, successors, executors, administrators, assigns and legal representatives to the other party to this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives of such other party, in respect to all covenants, agreements, and obligations of this Agreement.
- 20.2 Neither District nor Engineer shall assign, sublet, or transfer any rights under or interest in (including, but without limitation, monies that may become due or monies that are due) this Agreement without the written consent of the other, except to the extent that the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. Nothing contained in this paragraph shall prevent Engineer from employing such independent engineers, associates, and subcontractors as he may deem appropriate to assist him/her in the performance of the Services hereunder and in accordance with Article 7.
- 20.3 Nothing herein shall be construed to give any rights or benefits to anyone other than District and Engineer.

ARTICLE 21 – INFORMATION SYSTEM SECURITY

When the District determines this article is applicable, the Engineer shall obtain written approval from the District representative prior to accessing District internal systems through real-time computer connections. Upon approval, the Engineer will use only in-bound connections to accomplish a legitimate business need and a previously defined and approved task. As a condition of approval, the Engineer shall:

- a) Be running a current operating system supported by the District with up-to-date security patches applied as defined in the District COE/Non-COE document.
- b) Have anti-virus software installed on his/her personal computer with up-to-date virus signatures.
- c) Have personal firewall software installed and enabled on their computer.
- d) Understand and sign the District's Electronic Equipment Use Policy, number 2160.

The District reserves the right to audit the security measures in effect on Engineer's connected systems without prior notice. The District also reserves the right to terminate network connections immediately with all Engineer's systems not meeting the above requirements.

ARTICLE 22 – EMPLOYEE BACKGROUND CHECK

Engineer, at no additional expense to the District, shall conduct a background check for each of its employees, as well as for the employees of its subconsultants (collectively "Consultant Employees") who will have access to District's computer systems, either through on-site or remote access, or whose contract work requires an extended presence on the District's premises. The minimum background check process for any District consultant shall include, but not be limited to

- 1. California residents: Criminal Records (County and State Criminal Felony and Misdemeanor
- 2. Out of State residents: Federal criminal search of the National Criminal Database,

The background check shall be conducted and the results submitted to the District prior to initial access by Consultant Employees. If at any time, it is discovered that a Consultant Employee has a criminal record that includes a felony or misdemeanor, the Engineer is required to inform the District immediately and the District will assess the circumstances surrounding the conviction, time frame, nature, gravity, and relevancy of the conviction to the job duties, to determine

whether the Consultant Employee will be placed or remain on a District assignment. The District may withhold consent at its sole discretion. The District may also conduct its own criminal background check of the Consultant Employees. Failure of the Engineer to comply with the terms of this paragraph may result in the termination of its contract with the District.

ARTICLE 23 - EXCEPTIONS

No exceptions.

IN WITNESS THEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

UNION SANITARY DISTRICT

JACOBS ENGINEERING GROUP INC.

By: _____
Paul R. Eldredge, P.E.
General Manager/District Engineer

By: _____
Lisa Alliger, P.E.
Vice President

Date

Date

ODOR CONTROL PILOT STUDY
TASK ORDER NO. 1
to
AGREEMENT
BETWEEN
UNION SANITARY DISTRICT
AND
JACOBS ENGINEERING GROUP, INC.
FOR
PROFESSIONAL SERVICES
DATED _____, 2019

1. PURPOSE

The purpose of Task Order No. 1 is to authorize the preparation of an Odor Control Pilot Study for the Alvarado Wastewater Treatment Plant (AWTP). The Study will consist of the following items:

1. Select and obtain District endorsement on preferred technology, including pilot scale and configuration, for implementation at the AWTP
2. Select appropriate vendors to implement selected pilot technology
3. Develop and obtain District endorsement on performance criteria to be used as the basis for evaluating the implemented pilots
4. Develop a pilot work plan to summarize technologies, setup and demobilization, standard operating procedures and monitoring activities
5. Develop a sample plan for documenting the overall sampling approach as well as sample procedures, equipment and laboratory analyses
6. Train District staff on proper sample procedures and best practices
7. Utilize monitoring and sampling data to evaluate pilot performance and ability to meet performance criteria
8. Develop life-cycle cost estimates for piloted technology
9. Develop a report to summarize findings, evaluate odor control technologies, and recommend alternatives for implementation

The project elements described above are further described in the below scope of services.

2. PROJECT COORDINATION

All work related to this task order shall be coordinated through the District's Project Manager, Somporn Boonsalat.

3. SCOPE OF SERVICES

Task 1: Project Kickoff

The Engineer shall submit an initial data request, including but not limited to, relevant odor control and sampling reports, equipment specifications, and as-built drawings. Following receipt of data, the Engineer shall review requested data and develop an initial work plan for pilot implementation. Preliminary locations for piloting, duration of the pilots, potential pilot approaches, and initial sampling and monitoring approach will be included. The Engineer will submit the initial work plan prior to the kick-off meeting.

The Engineer shall conduct a project kick-off workshop with District staff to discuss the initial work plan and undertake the following:

- Discuss project goals and expected outcomes
- Confirm project stakeholders and project team
- Discuss and confirm pilot implementation approach
- Review proposed schedule and confirm pilot duration
- Confirm odor sampling locations
- Establish performance criteria

The Engineer shall conduct a field visit with District staff to confirm potential sampling locations and pilot connection locations. The visit will include a tour of the Headworks, Primary Clarifier, and Aeration Basin facilities.

The Engineer shall coordinate with the District and the Bay Area Air Quality Management District (BAAQMD) to determine if an experimental exemption permit is needed to operate the pilot(s). If required by BAAQMD, Jacobs will support the District in submission of the proper paperwork to obtain the permit.

Assumptions:

- The District will provide all relevant odor studies, past sampling data, as-built drawings and equipment specifications.
- The Engineer has budgeted two hours for the workshop and includes attendance by the Engineer's Principal-In-Charge, Project Manager, and Technical Director.
- The Engineer has budgeted two hours for a field investigation and includes attendance by the Engineer's Project Manager and Technical Director.

- Kick-off workshop and field investigation shall be conducted during the same day.
- The District will develop and submit paperwork required to obtain an experimental exemption permit; the Engineer will support the District with this effort by reviewing the draft documentation and adding any relevant technical information for the pilot unit(s). The District will be responsible for permitting fees.

Deliverables:

- Draft and final workshop agenda and PowerPoint presentation
- Draft and final summary meeting minutes
- Draft workplan

Task 2: Pilot Selection Workshop

The Engineer shall conduct a workshop with District staff to obtain endorsement from the District on the preferred technologies to be piloted. Non-financial criteria for each technology will be presented, including but not limited to; system complexity, future capacity, performance, maintenance requirements, safety, and staff training requirements. Technologies will be ranked based on criteria and District feedback to provide defensible justification for the final technology selection. These criteria, along with life-cycle cost, will also become the basis for evaluation of each pilot.

Additionally, pilot unit scale and configuration will be discussed. Details around desired pilot sizes and optimum configurations will be determined for incorporation into the pilot workplan. Decisions from this workshop will provide the basic design for the pilot units and assist in facilitating discussions with vendors to identify detailed design aspects including hook-ups required and equipment sizing.

Assumptions:

- The Engineer has budgeted four hours for the workshop and includes attendance by the Engineer's Principal-In-Charge, Project Manager, and Technical Director.
- The Engineer will provide preliminary list of recommended technology and associated criteria, including weighting and scoring scales, a minimum of one week prior to the scheduled meeting.
- The Engineer will provide final criteria list, associated weighting, and ranking of technology within one week after the meeting.

Deliverables:

- Draft and final workshop agenda and PowerPoint presentation
- Draft and final summary meeting minutes

Task 3: Pilot Implementation

The Engineer shall assist the District in developing RFP(s) for the technologies selected during Task 2. While the District will be responsible for the development of the RFP(s), the Engineer will assist by coordinating with appropriate vendors to determine utility requirements, equipment and sizing, installation procedure, and operation and maintenance requirements to include in the RFP(s). The Engineer will review the District developed draft RFP(s) prior to advertisement.

The Engineer will assist the District in reviewing proposals and will provide recommendations on potential vendors. While the Engineer will work directly with vendors, selected vendors will contract directly with the District. Where possible, two vendors will be selected to provide a side-by-side comparison. Once chosen, vendors will be responsible for set-up of pilots and hooking equipment up to the required utilities.

The Engineer shall update the initial workplan developed as part of Task 1 to include a summary of technologies and a detailed pilot approach; from technology setup to demobilization. The workplan will be developed in conjunction with District feedback and include pilot duration, performance criteria established in Tasks 1 and 2, sample locations and frequency, and summarize responsibilities of each party (District, Engineer, and Vendor). As part of this workplan, the Engineer will include a section on standard operating procedures, which the District can use to monitor equipment during piloting. While the Engineer will list daily monitoring activities, it is the responsibility of District staff to complete these activities daily. Lastly, the workplan will include a section to summarize repair and restoration of the site and existing equipment/ducting.

A draft work plan will be developed and provided to the District for comment, followed by a workshop to discuss and finalize the workplan. The Engineer will incorporate District comments and workshop decisions prior to finalization of the work plan.

Assumptions:

- The District will develop the RFPs for the pilot(s), the Engineer will assist by providing specific information for each technology and review the draft RFP(s) prior to advertisement.
- It is assumed that the District may develop up to two RFPs.
- Pilot vendors will contract directly with the District.
- District staff will be responsible for daily monitoring and sampling.

- Vendors will be responsible for start-up and hook-up of pilot equipment.
- The District shall submit workplan review comments to the Engineer within two weeks after receipt of the deliverable.
- Review comments shall be consolidated and provided in an excel table and labeled with the reviewer's initials, date, comment status, and an adjudication column.
- The Engineer has budgeted two hours for the workshop and includes attendance by the Engineer's Principal-In-Charge, Project Manager and Technical Director.

Deliverables:

- Summary of vendor equipment, utility requirements, installation procedure and operation and maintenance requirements
- One draft and final submittal workplan, in electronic PDF format
- Draft and final workshop agenda and PowerPoint presentation
- Draft and final summary meeting minutes

Task 4: Odor Sampling and Training

The Engineer shall develop and prepare a sampling plan for utilization by District staff. The sampling plan will include list of sampling locations, sample frequency, summary of sampling methods, and equipment to be used. Sample analyses and laboratories will be identified, along with laboratory locations and sample hold times. Proper handling of samples and required shipping will be included.

The District will be responsible for procuring sampling equipment, contracting with laboratories, collecting all air samples, and shipping the samples overnight to air quality laboratories for analysis. Air quality laboratories shall receive the samples, conduct specific analyses, and provide results. Analyses shall include general odor panel analysis (dilutions to threshold), speciated sulfur, hedonic tone, and carboxylic acid. Additionally, Odor Profile Method analyses shall be conducted to quantify key odorants that are not detected by the other analyses. To provide continuous hydrogen sulfide monitoring, Odalogs will be installed at pilot inlets and out to provide diurnal data.

The Engineer will provide one day of sample training for District staff, including vapor phase and hand-held field olfactometer sampling. The Engineer shall provide direction on sample procedure, equipment use, sample handling, and shipping. The District shall procure sample equipment for the training session. Additionally, the Engineer will provide in-field quality control for the initial sampling effort.

Assumptions:

- The Engineer has budgeted a one-day, eight-hour, sample training event.
- District staff will be available for a one-day sample training and will provide equipment.
- The District will be responsible for equipment procurement, laboratory contracting, air sample collection, and shipping.
- The Engineer shall provide list of acceptable laboratories to perform sample testing and testing method required.
- The Engineer has budgeted eight hours for quality control of District sampling.

Deliverables:

- Draft and final Sampling Plan
- Laboratory analysis results
- Final odor survey results

Task 5: Odor Control Pilot Evaluation

The Engineer shall evaluate the pilot technologies in three key areas: ability to meet performance criteria, odor removal performance, and cost. Pilot technologies will be compared to determine the most suitable technology for District implementation.

The Engineer will collaborate with District staff to obtain feedback on system complexity, training required and additional operational feedback. This information will be used to develop a score for each criteria identified in Tasks 1 and 2.

Sampling and field recorded data will be utilized to assess the technologies' odor removal performance. Inlet and outlet concentrations will be compared and associating with trending data to understand the technologies' ability to perform during upset odor conditions. Additionally, the Engineer will determine optimal sizing based on performance under reduced residence time and vendor feedback.

The Engineer will refine costs developed during the AWTP Odor Study using vendor-specific data and operating costs recorded during piloting. Capital and operation costs will be developed to quantify 20-year net present worth for each technology.

The Engineer shall utilize the previously developed Multi-Criteria Analysis (MCA) tool to evaluate the economic impacts of each technology against the District-specific performance criteria. The Engineer shall develop

recommendations for the preferred odor control technology based on the performance criteria and life-cycle cost of each technology.

Results from this effort will be presented in the initial findings workshop (Task 6) and included in the final report (Task 7).

Assumptions:

- A conceptual, engineering Class 5 (order-of-magnitude) cost estimate (up to 10% design) will be prepared for developing life-cycle cost comparisons for each technology.
- Cost estimates will be developed for up to six technologies/medias.
- The District shall provide feedback on operation and complexity of each technology.

Deliverables:

- Completed analysis for all technologies (included as part of Task 8 and Task 9 deliverables) and life-cycle cost

Task 6: Workshop to Present Initial Findings, Conclusions and Recommendations

The Engineer shall conduct a workshop to present initial findings, conclusions, and recommendations and obtain consensus on the recommendations to be presented in the draft report.

Assumptions:

- The Engineer has budgeted one four-hour meeting for this workshop and includes attendance by the Engineer's Principal-In-Charge, Project Manager, and Technical Director.
- The District will make available key representatives from engineering, O&M team, District decision-makers, and other stakeholders (if desired).

Deliverables:

- Draft and final workshop agenda and PowerPoint presentation
- Draft and final summary meeting minutes

Task 7: Draft and Final Pilot Study Report

The Engineer shall prepare a draft and final report that details pilot selection and implementation, sampling, evaluations, and recommendations. The report shall document the findings, decisions, conclusions, and recommendations resulting from Tasks 1 through 6, including a recommended technology for implementation at each facility, which the District can include in their capital

improvement program. The final report shall adjudicate and incorporate all District comments from the draft report.

The Report will be in technical memorandum format with each section aligned to the tasks stated above. The expected report sections are as follows:

- Executive Summary
- Section 1: Introduction and Background
- Section 2: Performance Criteria
- Section 3: Technology Descriptions
- Section 4: Pilot Implementation
- Section 5: Sampling and Performance Results
- Section 6: Pilot Evaluation
- Section 7: Findings and Recommendations

Assumptions:

- The District shall submit review comments to the Engineer within two weeks after receipt of the deliverable.
- Review comments shall be consolidated and provided in an excel table and labeled with the reviewer's initials, date, comment status, and an adjudication column.
- The study page count including appendices shall not exceed 100 pages (not including appendices).

Deliverables:

- One draft submittal Pilot Study report, in electronic PDF format.
- Five hard copies and one electronic PDF copy of the final Pilot Study

Task 8: Project Management

The Engineer shall manage the efforts of the project team members and coordinate with the District's Project Manager. The Engineer shall prepare and submit monthly invoices. Monthly invoices shall be broken down by each task and list a summary of monthly work completed by the Engineer.

Assumptions:

- The District will manage the selected pilot vendors.
- The project duration will not exceed 16 months.
- The District will make available key representatives from engineering, O&M team, District decision-makers, and other stakeholders (if desired).

Deliverables:

- Monthly invoices with summary of work completed
- Quarterly schedule updates, or as needed
- Weekly calls with the District's Project Manager, or as needed

4. NOT USED

5. NOT USED

6. NOT USED

7. PAYMENT TO THE ENGINEER

Payment to the Engineer shall be as caked for in Article 2 of the Agreement. The Multiplier for this work shall be 3.06, the profit shall be 10 percent, and the not-to-exceed amount shall be \$98,713. A summary of the anticipated distribution of cost and manpower between tasks is shown in Exhibit A.

The following table summarizes the previously-executed and proposed task orders and amendments under the Agreement:

Task Order / Amendment	Not to Exceed Amount	Board Authorization Required?	District Staff Approval
Task Order No. 1 - Odor Control Pilot Study	\$98,713	Yes	Paul Eldredge
Total	\$98,713		

8. TIME OF COMPLETION

All work defined in this Task Order shall be completed as shown in the table below and subject to the conditions of Article 3 of this Agreement.

Notice to Proceed	September 2019
Project Kickoff	October 2019
Pilot Selection Workshop	October 2019
Pilot Implementation	December 2019 to August 2020
Odor Sampling and Training	December 2019
Odor Control Pilot Evaluation	October 2020
Findings and Conclusions Workshop	November 2020
Draft and Final Pilot Study Report	December 2020

9. KEY PERSONNEL

Engineering personnel assigned to this Task Order No. 1 are as follows:

<u>Role</u>	<u>Key Person to be Assigned</u>
Principal-in-Charge	Jay Witherspoon
Project Manager	Giuseppe Tomasino
Technical Director	Scott Cowden
Treatment Technology SME	Bart Kraakman

Key personnel shall not change except in accordance with Article 8 of the Agreement.

IN WITNESS WHEREOF, the parties hereto have made and executed this Task Order No. 1 as of _____, 2019 and therewith incorporated it as part of the Agreement.

DISTRICT

ENGINEER

Union Sanitary District

JACOBS Engineering Group, Inc.

By: _____
Paul R. Eldredge, P.E.
General Manager/District Engineer

By: _____
Lisa Alliger, P.E.
Vice President

Date: _____

Date: _____

Odor Control Pilot Study - Task Order No. 1
Exhibit A

	Principal in Charge	Technical Director	Project Manager	Odor Control SME	Project Engineer	Document Processing	Editor	Total Hours	Total Labor (\$)	Task Expenses (\$)	Task Totals (\$)
Rates	\$276.00	\$275.00	\$180.00	\$227.00	\$108.00	\$89.00	\$136.00				
Task 1 - Project Kickoff	4	10	18	8	8	0	0	48	\$ 9,774	\$ 1,073	\$ 10,847
Task 2 - Pilot Selection Workshop	3	8	12	6	4	0	0	33	\$ 6,982	\$ 1,073	\$ 8,055
Task 3 - Pilot Implementation	7	16	26	20	22	0	0	91	\$ 17,928	\$ 1,073	\$ 19,001
Task 4 - Odor Sampling and Training	0	4	24	3	16	0	0	47	\$ 7,829	\$ 100	\$ 7,929
Task 5 - Odor Control Pilot Evaluation	2	20	18	16	36	0	0	92	\$ 16,812	\$ -	\$ 16,812
Task 6 - Workshop to Present Findings, Conclusions and Recommendations	5	12	12	4	6	0	0	39	\$ 8,396	\$ 1,073	\$ 9,469
Task 7 - Draft and Final Pilot Study Report	3	14	14	10	36	8	12	97	\$ 15,700	\$ 100	\$ 15,800
Task 8 - Project Management	0	0	60	0	0	0	0	60	\$ 10,800	\$ -	\$ 10,800
Grand Total	24	84	184	67	128	8	12	507	\$ 94,221	\$ 4,492	\$ 98,713

**Directors**

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 9**

TITLE: Authorize the General Manager to Execute Task Order No. 2 with AECOM Technical Services, Inc. for the Centrifuge Building Improvements Project (*This is a Motion Item*)

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
Sami E. Ghossain, Technical Services Work Group Manager
Raymond Chau, CIP Team Coach
Somporn Boonsalat, Associate Engineer

Recommendation

Staff recommends the Board authorize the General Manager to execute Task Order No. 2 with AECOM Technical Services, Inc. (AECOM) in the amount of \$573,569 for the Centrifuge Building Improvements Project (Project).

Previous Board Action

January 14, 2019, the Board authorized the General Manager to execute an agreement and Task Order No. 1 with AECOM in the amount of \$183,789 to provide preliminary design services for the Project.

Background

The District's Alvarado Wastewater Treatment Plant's (Plant) Centrifuge Building (see Figure 1) was constructed in 2002 and houses four high-speed centrifuges to dewater digested sludge. The dewatered sludge is then conveyed by a series of shafted screw conveyors to the sludge hoppers for truck loading and disposal. The attached Figures 2 through 10 include photos of the sludge conveyance system and the Sludge Loadout Room in the Centrifuge Building.

Task Order No. 1 – Preliminary Design Services

AECOM's primary scope of services included the following tasks:

- Assess the condition of the existing shafted screw conveyor system and evaluate conveyance system alternatives.
- Evaluate options for the addition of a new truck scale.
- Evaluate Sludge Loadout Room extension for odor mitigation.
- Evaluate pipe supports and fittings for the centrate dilution water piping system.
- Evaluate potable water availability for Centrifuge Building process needs.
- Evaluate air handlers, air compressors & dryers, polymer mixers, and diaphragm sump pump for replacement.

After data collection, testing, and analysis, AECOM recommended the following improvements:

- Keep the existing conveyor troughs for the horizontal and inclined conveyors and replace the shafted screw conveyors with new shaftless screw conveyors. The other conveyors are still in good condition.
- Install a truck scale inside the Centrifuge Building and extend the Sludge Loadout Room to reduce odors during the sludge loadout process.
- Replace the existing PVC fittings with ductile iron fittings on the centrate dilution water piping system and other No. 4 water pipelines and fittings to eliminate piping failures from large water system pressure fluctuations.
- Install a small booster station on the No. 1 (potable) water pipeline in the Centrifuge Building to increase the capacity and pressure of the No. 1 water supply to the polymer blending system.
- Replace the air handlers, air compressors and dryers, polymer mixer, and diaphragm sump pump.

AECOM's preliminary construction estimate for these improvements is \$4.5 Million. Staff recommends proceeding with a project to address the identified improvements.

Task Order No. 2 – Final Design Services

AECOM's Task Order No. 2 fee for the final design phase is summarized below:

Task No.	Task Description	Fee
1	Project Management	\$20,936
2	No. 1 Water Model	\$54,221
3	50 Percent Design Submittal	\$235,029

Task No.	Task Description	Fee
4	90 Percent Design Submittal	\$193,208
5	Final Design Submittal	\$53,659
6	Bid Period Services	\$16,516
	Total Not-to-Exceed Fee	\$573,569

AECOM's scope of services will include the preparation of the 50 percent, 90 percent, and final design submittals, facilitation of workshops with staff for the 50 and 90 percent design submittals and bid period services.

AECOM will also create a distribution network model of the Plant's No. 1 water system and analyze the No. 1 water needs at various Plant processes. The No. 1 water is supplied into the Plant through a 4-inch diameter pipeline after passing through a backflow preventer and water meter located at the north end of the Plant. The 4-inch diameter pipeline is routed to the south end of the Plant with branches to different process buildings along the way. The pipeline size, routing, and configuration introduces significant system headloss. During preliminary design, AECOM identified an improvement to increase the capacity and pressure of the No. 1 water for the polymer blending system in the Centrifuge Building. However, staff identified other Plant process areas that may have deficient No. 1 water capacity and pressure that would require a more detailed evaluation not originally included in Task Order No. 1. Depending on the results of the No. 1 water model analysis, the final scope of the Centrifuge Building water booster station may be modified to address the overall No. 1 water system needs.

The design fee for the Project, without the No. 1 Water Model task, is \$519,348 which is 11.5 percent of the preliminary construction estimate. For a project of this scope and size, design fees are typically between 8 and 12 percent of the construction estimate. Staff believes AECOM's design fee is reasonable given the level of effort to design all the elements of the Project. The total fee for the Project's agreement with AECOM is summarized in the table below:

Task Description	Fee
Task Order No. 1 – Preliminary Design Services	\$183,789
Task Order No. 2 – Final Design Services	\$573,569
Total	\$757,358

Staff anticipates final design to be complete by spring/summer 2020, and construction will begin by fall 2020.

Staff recommends the Board authorize the General Manager to execute Task Order No. 2 with AECOM Technical Services, Inc. in the amount of \$573,569 for the Centrifuge Building Improvements Project.

PRE/SEG/RC/SB:mb

Attachments: Figure 1 – Site Plan
Figures 2 through 10 – Equipment Photos
Task Order No. 2

UNION SANITARY DISTRICT
ALVARADO WASTEWATER TREATMENT PLANT

FIGURE 1 - SITE PLAN

NO SCALE

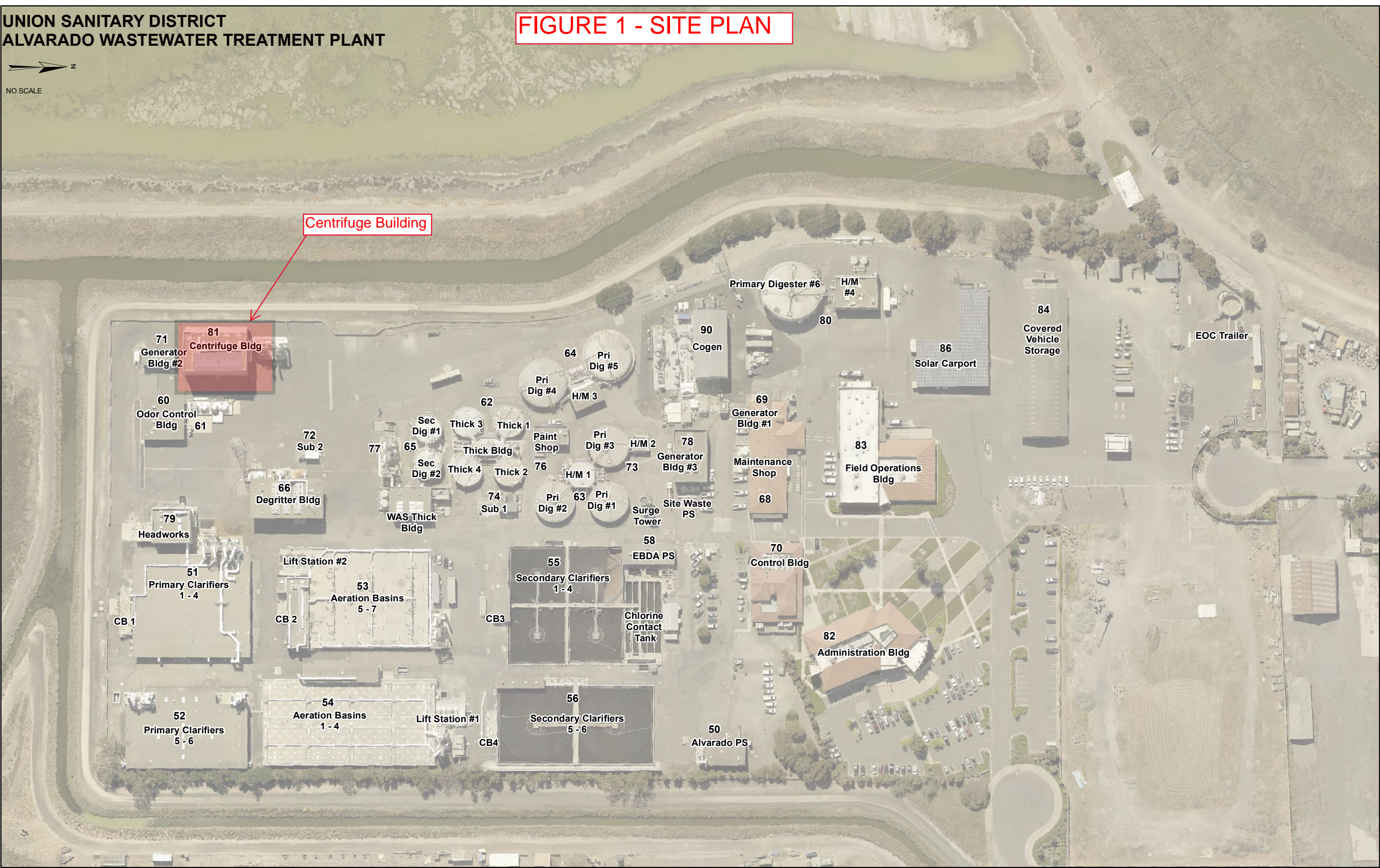




Figure 2 – Centrifuge Sludge Conveyance System

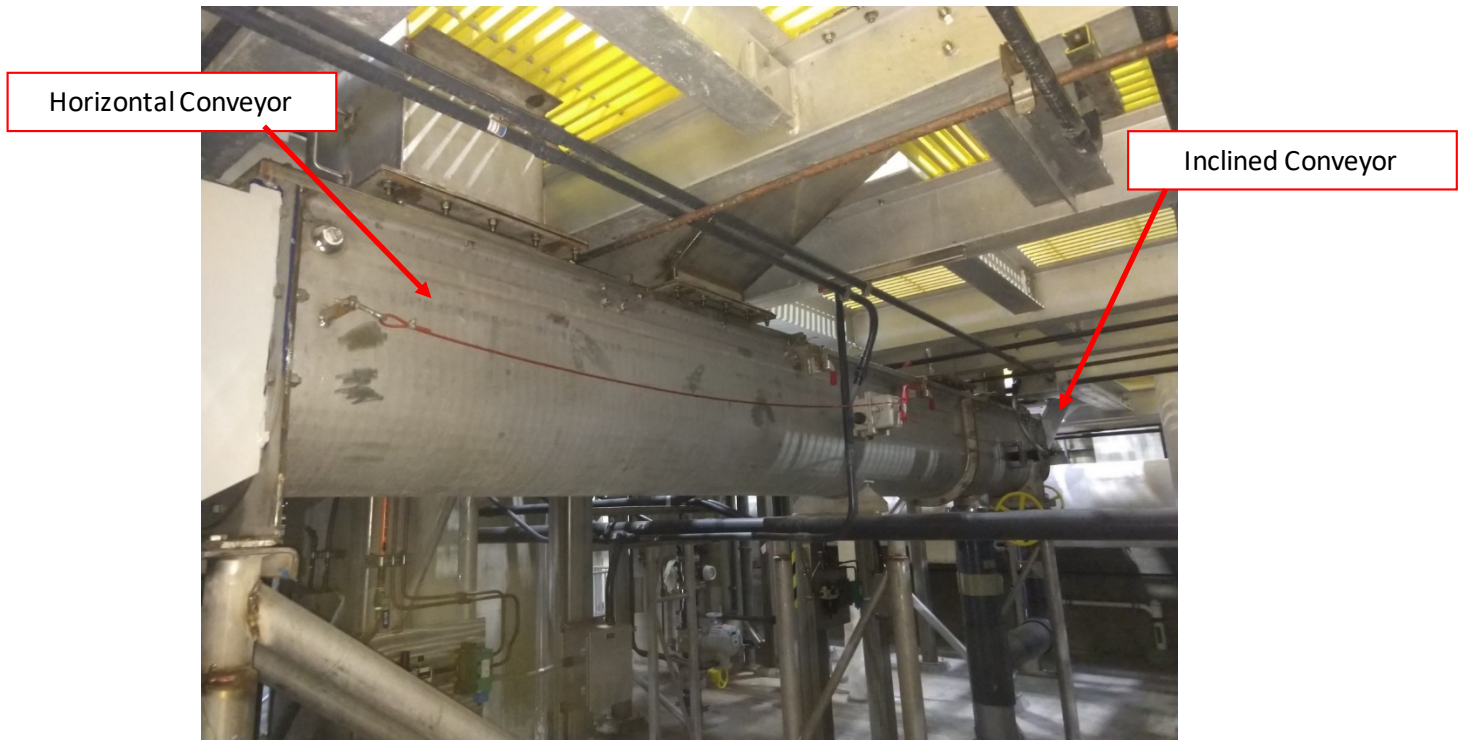


Figure 3 – Horizontal Conveyor Underneath Mezzanine



Figure 4 – Inclined Conveyor Above Mezzanine



Figure 5 – Inclined Collection Conveyor Hanger Bearing

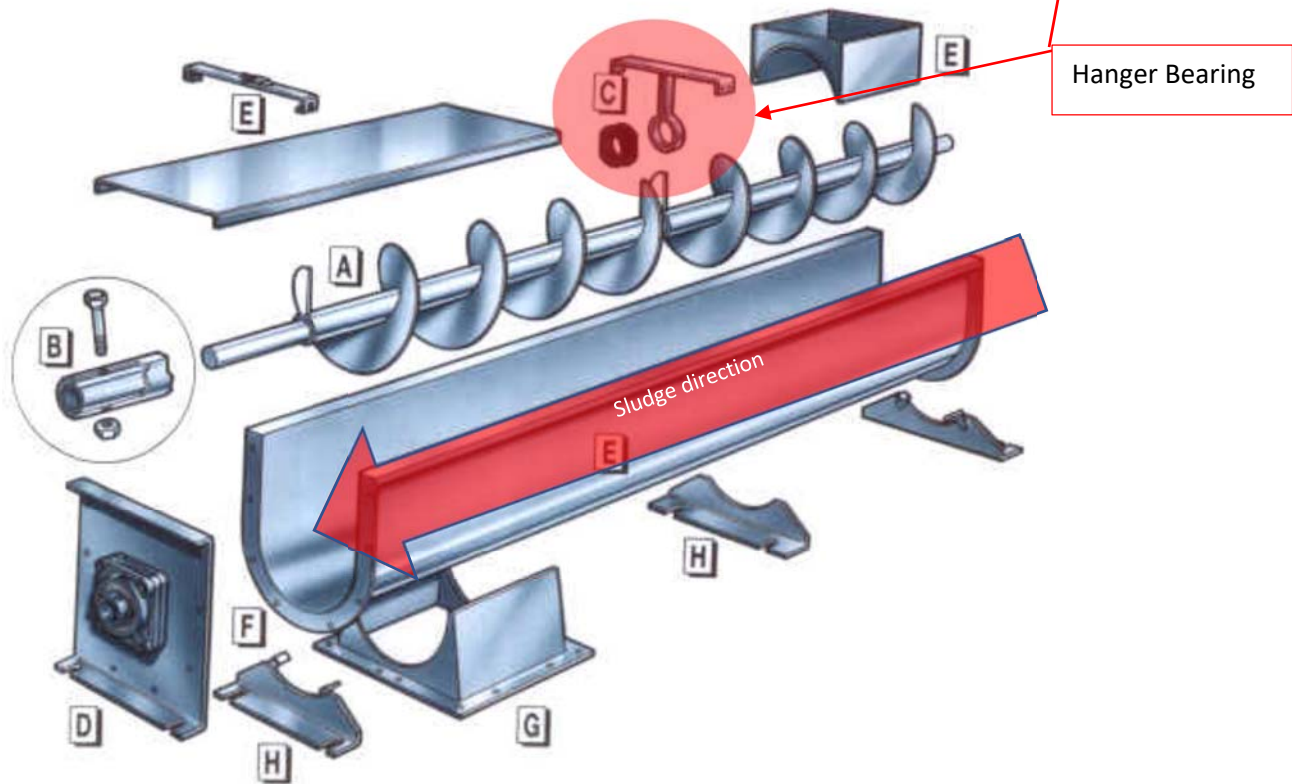


Figure 6 – Typical Shafted Screw Conveyor Parts



Figure 7 - Distribution Conveyors Over the Sludge Storage Hoppers

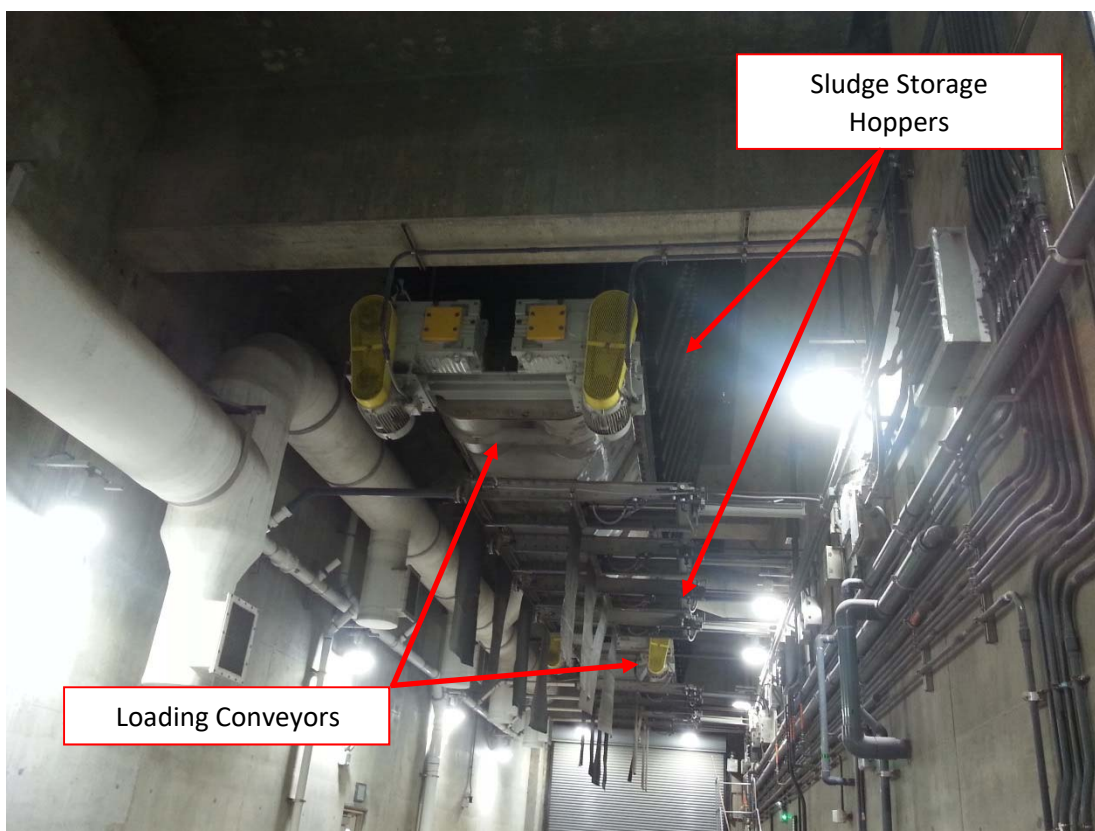


Figure 8 - Loading Conveyors and Sludge Storage Hoppers



Figure 9 - Sludge Loadout Room (Requires Extension)



Figure 10 – New Truck Scale Inside Sludge Loadout Room

CENTRIFUGE BUILDING IMPROVEMENTS PROJECT

TASK ORDER NO. 2

to

AGREEMENT

BETWEEN

UNION SANITARY DISTRICT

AND

AECOM TECHNICAL SERVICES, INC

FOR

PROFESSIONAL SERVICES

Dated January 15, 2019

1. PURPOSE

The objective of this task order is to complete design improvements at the Centrifuge Building and provide bidding and construction documents for these improvements.

2. PROJECT COORDINATION

All work related to this task order shall be coordinated through the District's Project Manager, Somporn Boonsalat.

3. SCOPE OF SERVICES

The task numbers in this Scope of Services are associated with the cost and schedule data presented in Exhibits A and B, respectively.

AECOM (Engineer) submitted the Preliminary Design Report (PDR) for the Centrifuge Building Improvements in June 2019 as provided under Task

Order 1. The District has directed Engineer to include the following components in a construction package for bidding.

Conveyors:

- Replace shafted Horizontal and Inclined conveyors with shaftless screws. Install new liner into existing troughs. Replace drive units, wiring, and controls.
- No modifications will be made to the Classifying, Distribution, and Hopper loadout conveyors.

Scale & Loadout Room Extension:

- Install a single-truck scale that spans the full length of the existing building foundation footprint
- Provide building extensions to north and south of the Sludge Loadout Room. The material of the extensions will be Concrete Masonry Units (CMU).
- Careful attention to truck clearances will be considered during the design process.

Water System:

- Exterior 8-inch 4W line will be replaced with ductile iron (DI) pipe and fittings due to recent failure on July 24, 2019.
- Dilution water line upgrades as recommended in the PDR will be moved forward into design.
- Add booster pumps for increased flow in the Centrifuge Building.
- Full 1W/2W system modeling will be completed to evaluate alternative booster station required to meet demand of all buildings.

Miscellaneous Items:

- Replacement in-kind of air handlers, compressors and dryers, polymer mixers, and diaphragm sump pump as recommended in the PDR.
- Add ability to use 4W for seal water to existing sludge pumps.
- Add reset button to reset load out control panel in Sludge Loadout Room.

Assumptions:

- No yard pping changes associated with 1W/2W Booster Station installation.

- Design will use existing geotechnical information. No additional geotechnical services are included in this scope of services.
- No environmental permitting is included in this scope of services. Support of environmental permitting will be handled by the District.

Task 1 – Project Management

Project management tasks will include monthly invoicing, weekly project progress check-ins with the District, and oversight of Engineer's internal quality program during detailed design.

Weekly check-ins will be primarily between the District's and Engineer's project managers to be held during the design period of this Task Order to discuss progress of the detailed design. The District does not expect Engineer to prepare formal agendas or meeting minutes for these meetings.

Assumptions:

- 10 months for the completion of detailed design phase tasks and bid support as described in this Task Order No. 2.
- The District will provide drafting standards, standard details, and standard specifications to be used for the Project. Engineer shall supplement these District standards and practices as needed for the Project.

Engineer shall lead a detailed design kickoff meeting with District staff at the District's office to discuss detailed design elements and aspects of the water model.

Engineer shall prepare agendas and handouts/presentations.

Minutes will be submitted within one week following the meeting.

The District will return one set of review comments for the kickoff meeting minutes to the Engineer. Engineer shall submit final meeting minutes revised in accordance with the District comments.

Task 2 – No. 1 Water Model

Task 2.1 – Final PDR Filing: Engineer shall update the Preliminary Design Report by including the comment table as an appendix to document the final scope of design.

Task 2.2 – 1W/2W Water Model: Engineer shall develop a hydraulic model for the plant Potable Water (1W) and Nonpotable Water (2W) systems to

facilitate hydraulic evaluation and system improvement planning. This work will include the following:

1. Review existing data documenting existing water system configuration and demands, to be provided by the District.
2. Develop hydraulic models for existing 1W and 2W distribution systems, based on GIS information to be provided by the District.
3. Develop hydraulic models for 1W and 2W systems for future plant demands, based on information provided by the District.
4. Evaluate capacities and projected needs.
5. Develop one future utility conceptual layout of 1W and 2W system to address future needs.

Assumption: Engineer's scope of services does not include procurement of software. Engineer shall use its existing software, and it is assumed that the District will procure its own software and licenses to view and use the model.

The Water Model Study is broken down into specific tasks as follows:

2.2.1 Data Collection and Review

Operations and maintenance (O&M) records, GIS, record drawings (AutoCAD files preferred), water system meter data, pump data, and SCADA data will also be used if available. The following data, where applicable, is required to build and run the hydraulic models:

1. 1Water
 - a. All pipe diameters
 - b. GIS basemap of existing system pipes and all appurtenances, including sizes and materials.
 - c. Demand locations, demands, and pressure criteria.
 - d. Water sources: pump data and curves.
 - e. Flow and pressure meter data and locations.
 - f. Valve settings.
2. 2Water
 - a. GIS basemap of existing system pipes and all appurtenances, including sizes and materials.
 - b. All pipe diameters
 - c. Demand locations, demands, and pressure criteria
 - d. Water source: Pump data and curves
 - e. Flow and pressure meter data and locations
 - f. Valve settings

It is assumed that the data will be provided by the District in electronic format.

Assumptions:

- Engineer shall use Innovyze InfoWater for water system modeling. Existing records and data sources shall be used.
- No on site locations survey work or field data collection will be performed.
- No flow or pressure monitoring will be performed.
- If data gaps exist, Engineer shall use assumptions and document those assumptions.

2.2.2 Water Demand Estimates

2.2.2.1 Existing Demands

Engineer shall analyze available historical data to establish demands for the existing conditions.

Appropriate assumptions shall be made if no data is available. When available, DCS data shall be reviewed for the 1W/2W systems. Available historical meter data from the District water supply shall be analyzed to determine usage. The information gathered and reviewed as part of Task 1 shall also be used to prepare demand summaries for the 1W and 2W for the following existing system demand conditions:

- Average Day Demand (ADD)
- Maximum Day Demand (MDD)
- Peak Hour Demand (PHD)
- Fire Flow Demands (as applicable)

2.2.2.2 Future Demands

Engineer shall use future demand information provided by the District to establish estimated future demand scenarios. One (1) meeting with the District is planned to obtain their future demand data.

2.2.3 Hydraulic Model Development

2.2.3.1 Model Development Criteria.

Prepare a brief (1-page) statement of modeling objectives and criteria, including the purpose of the model, modeling criteria and calibration goals. Calibration goals will be dependent on the availability of water system data, operational information and demand resolution.

2.2.3.2 System Analysis Criteria.

Develop criteria that will be used to analyze the W1 and W2 systems.

The criteria to be developed by Engineer include the following:

- Analysis scenarios (up to 2)
- Minimum and maximum pressures. Process-specific pressure requirements to be provided by the District
- Allowable pipeline velocities
- Allowable pipeline headloss
- Friction “C” Factors for Pipelines based upon industry standards for pipe type, size and age

2.2.3.3 Model Development

Engineer shall develop one hydraulic model of each of the existing 1W and 2W systems in InfoWater hydraulic modeling software. The model will be developed in accordance with the model development criteria established in Task 2.2.3.1. The hydraulic models will be developed using information from the GIS basemaps, and other relevant information obtained during the data collection process. Plant distribution pipes will be included in the model. Service laterals to individual buildings, processes, etc. and piping within process buildings will not be included.

Engineer shall develop one (1) hydraulic model of each of the existing 1W and 2W systems in InfoWater hydraulic modeling software for future demand conditions. The model will be developed in accordance with the model development criteria established in Task 2.2.3.1. The hydraulic models will be developed using information from the GIS basemaps, and other relevant information obtained during the data collection process. Plant distribution pipes will be included in the model. Service laterals to individual buildings, processes, etc. and piping within process buildings will not be included.

2.2.3.4 Initial Hydraulic Analysis

Engineer shall use the hydraulic models developed and the criteria defined to analyze the 1W and 2W systems under up to two (2) operating scenarios (per the system analysis criteria developed in the Task 2.2.3.2) for current and future demand conditions. Modeling efforts will identify areas of deficiency in the current and future conditions where analysis criteria are not met, and identify potential improvements to meet the established criteria.

This initial analysis will be performed on the preliminary uncalibrated hydraulic model. The results from the uncalibrated model would not be suitable for design purposes without. The results of the initial analysis will be summarized and discussed with the District. Initial analysis results will include:

1. Identification of hydraulic deficiencies, where the analysis criteria are not met
2. Identification of data gaps where additional investigation is needed
3. Model calibration recommendations.

The approach for addressing data gaps, if any, and model calibration will be discussed with the District. As appropriate, District will provide authorization prior to proceeding with the agreed upon model calibration approach (Task 2.2.3.5).

2.2.3.5 Model Calibration (this task will not be performed without prior District authorization)

Develop model calibration plan in accordance with the model development criteria and commensurate with the allocated calibration budget. The model calibration plan will identify the calibration approach for each water system. The calibration plan will be reviewed, discussed and agreed upon with District staff.

Assumption: No flow monitoring and other field tests will be performed. Field work for model calibration is not currently included. The level of effort for calibration is estimated assuming that calibration information is available from the District. Refinement of the level of effort may be required upon review of existing information and water system configuration.

Engineer shall analyze available data and perform model calibration in accordance with the model calibration plan. For the purposes of this project, the calibration effort will be considered complete upon execution of the agreed upon calibration plan and utilization of the budget allocated to calibration. If calibration to the criteria cannot be achieved at that point, Engineer shall present recommendations for performing additional calibration tasks as additional work, or proceeding with the model in its current state of calibration.

While the approach will be described in the calibration plan based on the results of Task 2.2.3.4, preliminary calibration concept will include:

- Collection of network demand, flow, pressure, and operational information for the selected calibration day/scenario.
- Simulation of the calibration day/scenario in the hydraulic model and comparison with actual conditions.
- Perform refinements to the hydraulic model as required to achieve calibration criteria
- Document calibration results and recommendations

2.2.3.6 Revise Hydraulic Analysis *(this task will not be performed without prior District authorization)*

Revise hydraulic analysis performed in Task 2.2.3.4 using the calibration hydraulic model.

2.2.4 Meetings/Workshops

The analysis will be coordinated and discussed during technical meetings and workshops.

1. The meeting and workshop submittals will include agendas (due two weeks before the meeting or workshop) and draft handouts/presentations, due one week before the meeting or workshop.
2. Minutes will be submitted within one week following the meeting or workshop.
3. The following meetings and workshops are planned:
 - a. Kickoff meeting (part of Task 1)
 - b. One meeting with the District project teams to obtain future water demands of relevant District projects.
 - c. One meeting to discuss the development of the hydraulic model(s) and the system analysis criteria with the District.
 - d. One meeting with the District to present existing and future demands, demand projections, and preliminary conceptual layouts to meet the projected increases in utility demands and their timelines for water systems.

2.2.5 Technical Memorandum

2.2.5.1 Draft Technical Memorandum

Prepare draft technical memorandum documenting:

- Approach, methodologies, and objectives of utility planning
- Data collection summary
- Existing and future demands and demand projection
- Development and calibration of the hydraulic models including model calibration plan, systems criteria, and results.
- Identification of hydraulic deficiencies under existing and future conditions
- Identification of improvements to address hydraulic deficiencies.

Engineer shall submit the draft Technical Memorandum (TM) for the District's review.

The District will return one set of review comments for the draft TM to Engineer.

2.2.5.2 Final Technical Memorandum

Upon receipt of the District comments, Engineer shall incorporate the District's comments into a final TM.

Task 3 – 50 Percent Design Submittal

The 50 percent design submittal will incorporate the scope of work documented in the Updated PDR.

Task 3.1 Drawings

The 50 percent drawing set will include the following:

1. Complete cover sheet.
2. Preliminary general sheets, including:
 - a. Drawing Index
 - b. Abbreviations
 - c. Legends
 - d. Site Plan
3. Plan views for each area of work within the following disciplines:
 - a. Demolition
 - b. Civil/Yard (including underground utilities)
 - c. Structural
 - d. Mechanical
 - e. Electrical
4. General large-scale section views .
5. Existing single-line diagram.
6. Preliminary project specific details, including all appurtenances or structures with dimensions and locations.
7. Draft of all typical details

8. All of the drawings intended for inclusion in the final documents.

Engineer shall perform internal Quality Control Review prior to each submittal as required by our standard QC plan.

The 50 percent drawings will be submitted as a separate document at the same time as the 50 percent specifications and 50 percent construction schedule.

Task 3.2 Specifications

The specifications will be prepared based on CSI 46 division format. The design specifications for 50 percent will include the current District's "front end" Contract Documents, and include: Complete Table of Contents, Draft front end specifications with updated project information, and Draft technical specifications

The specifications will be submitted as a separate document at the same time as the drawings and construction schedule.

Task 3.3 Cost Estimate

AECOM shall prepare a Cost Estimate based on the submitted 50 percent design documents and will be in accordance to the appropriate Association for the Advancement of Cost Engineering (AACE) Class as the design proceeds. The estimate will be based on equipment quotations, material takeoffs and other factors necessary as the design progresses.

The cost estimates will be submitted as a separate document two weeks after the drawings, specifications, and construction schedule.

Task 3.4 Constructability, Sequencing and Schedule

AECOM shall update the development of construction sequencing from the final PDR, including review of the sequencing with District staff and development of a detailed construction schedule based on the proposed sequencing. The construction schedule will provide additional detail consistent with further development of the project design.

The construction schedule will be submitted as a separate document at the same time as the 50 percent drawings and specifications.

Task 3.5 Meetings and Workshops

The Design will be coordinated and discussed during technical meetings and workshops.

1. The meeting and workshop submittals will include agendas (due two weeks before the meeting or workshop) and draft handouts/presentations, due one week before the meeting or workshop.
2. Minutes will be submitted within one week following the meeting or workshop.
3. The following meetings and workshops are planned:
 - a. One workshop after the submittal of the 50 percent drawings specifications, and construction schedule to present materials submitted to the District.

The District will return one set of review comments for the 50 percent submittal documents to Engineer.

Task 4 – 90 Percent Design Submittal

The 90 percent design submittal will include substantially complete design documents, and include modifications to the 50 percent design documents based on the 50 percent review comments from the District.

Task 4.1 Drawings

The 90 percent drawing shall include the following:

1. Incorporated comments from the 50 percent design submittal.
2. Final general sheets, including all required general and construction notes.
3. Final plan and section views.
4. Complete material and equipment schedules with all sizes, material types and products shown.
5. Complete new/revised single-line diagram.
6. Complete project specific details, including all appurtenances or structures with dimensions and locations.
7. Final typical details.

Engineer shall perform internal Quality Control Review prior to each submittal as required by our standard QC plan.

The 90 percent drawings will be submitted as a separate document at the same time as the 90 percent specifications and construction schedule.

Task 4.2 Specifications

The 90 percent specifications will be presented as the 50 percent specifications with revisions shown via MS Word Track Changes. The specifications will include:

1. Complete front end specifications, including:
 - a. Bid schedule, including bid item descriptions in Section 01025
 - b. List of Major Equipment
 - c. Summary of Work, including construction sequence and constraints in Section 01010
2. Complete technical specifications, including all appendices. Typical appendices sections may include:
 - a. LOTO information
 - b. Geotechnical Reports (to be provided by the District)
 - c. CEQA Documents (to be provided by the District)
 - d. Condition Assessment Reports
 - e. Hazardous Material Reports
 - f. Existing As-Built Drawings
 - g. Special Permit Requirements, as needed

The specifications will be submitted as a separate document at the same time as the drawings and construction schedule.

Assumption: Project specific storm water prevention plan will not be required for these bid documents.

Task 4.3 Cost Estimate

The Cost Estimate delivered under Task 4 will be updated at 90 percent design. The estimate will be based on the submitted design documents and will be updated to the appropriate AACE Class as the design proceeds. The estimate will be based on equipment quotations, material takeoffs and other factors necessary as the design progresses.

The cost estimate will be submitted as a separate document two weeks after the 90 percent drawings and specifications.

Task 4.4 Constructability, Sequencing and Schedule

This task will build on the work performed in Task 3 for development of construction sequencing drawings including review of the sequencing with District staff and development of a detailed construction schedule based on the proposed sequencing. The updated construction schedule will provide additional detail consistent with further development of the project design.

The construction schedule will be submitted as a separate document at the same time as the 90 percent drawings and specifications, and will serve as the final construction schedule for the project.

Assumption: No major changes in the project will occur that will affect the construction sequencing or schedule subsequent to the submittal of the 90 percent documents. This construction schedule will serve as the final construction schedule submittal.

Task 4.5 Meetings and Workshops

The Design will be coordinated and discussed during technical meetings and workshops.

1. The meeting and workshop submittals will include agendas (due two weeks before the meeting or workshop) and draft handouts/presentations, due one week before the meeting or workshop.
2. Minutes will be submitted within one week following the meeting or workshop.
3. The following meetings and workshops are planned:
 - a. One workshop after the submittal of the 90 percent drawings specifications, construction schedule, and cost estimate to present materials submitted to the District.

The District will return one set of review comments for the 90 percent submittal documents to Engineer.

Task 5 – Final Design Submittal

The 100 percent design submittal will update the 90 percent design submittal and will include modifications based on 90 percent review comments received from the District and be ready for bidding including all stamps and signatures.

Task 5.1 Drawings

The 100 percent drawing set will be complete set of all the sheets ready for bidding.

Engineer shall perform internal Quality Control Review prior to each submittal as required by our standard QC plan.

The 100 percent drawings will be submitted as a separate document at the same time as the 100 percent specifications and 100 percent cost estimate.

Task 5.2 Specifications

The 100 percent specifications will update the 90 percent design submittal and be ready for bidding.

The 100 percent specifications will be submitted as a separate document at the same time as the drawings.

Task 5.3 Cost Estimate

The Cost Estimate delivered under Task 5 will be updated at 100 percent design. The estimate will be based on the submitted design documents and will be updated to the appropriate AACE Class as the design proceeds. The estimate will be based on equipment quotations, material takeoffs and other factors necessary as the design progresses.

The cost estimates will be submitted as a separate document two weeks after the 100 percent drawings and specifications and will serve as the final cost estimate for the project.

Task 6 – Bid Period Services

Engineer shall provide the following services during the bidding period:

Attend one site walk and submit meeting minutes to the District within ten (10) working days after meeting or on a date mutually agreed upon with the District.

Provide answers to bidder questions and, if required, prepare revisions and supplementary provisions during the bidding period and prepare one addendum required to incorporate the revisions and provisions into the contract documents.

Assumptions:

- The District will maintain the prospective bidder's list, serve as the first point of contact with bidders, and make any copies of the bid documents and addenda needed for distribution to bidders.
- Engineer's scope and fee do not include production of conformed contract documents.

4. DELIVERABLES

Task 1: The deliverables for Project Management will include the following:

1. Meeting agenda(s) and notes.
2. Meeting handouts and/or presentation slides.
3. Meeting and/or workshop minutes (draft and final).

Task 2: The deliverables for Updated PDR will include the following:

1. Final PDR with updated comment table appendix.
2. Summary of data collected for 1W/2W Water Model via email to the District.
3. Summary of existing and future 1W and 2W demand data and demand projections via email to the District.
4. Summary of development and calibration of the hydraulic models including model calibration plan, systems criteria, and results.
5. Water model meetings agenda(s) and minutes
6. 1W/2W Water Model Technical Memorandum (draft and final).
7. Surge Mitigation Sizing Technical Memorandum (draft and final)

Task 3: The deliverables for 50 Percent Design will include the following:

1. Meeting agenda(s) and notes.
2. Meeting handouts and/or presentation slides.
3. Meeting and/or workshop minutes (draft and final).
4. 50 percent drawings.
5. 50 percent specifications.
6. 50 percent construction schedule.
7. 50 percent cost estimate.
8. Digital, CAD files of all drawings and documents

Task 4: The deliverables for 90 Percent Design will include the following:

1. Meeting agenda(s) and notes.
2. Meeting handouts and/or presentation slides.
3. Meeting and/or workshop minutes (draft and final).
4. 90 percent drawings.
5. 90 percent specifications.

6. 90 percent cost estimate.
7. Final construction schedule.
8. Digital, CAD files of all drawings and documents

Task 5: The deliverables for Final Design will include the following:

1. Bid ready drawings
2. Bid specifications
3. Final cost estimate.
4. Digital, CAD files of final and bid ready drawings and documents

Task 6: The deliverables for Bid Support will include the following:

1. Meeting agenda(s) and notes.
2. Meeting handouts and/or presentation slides.
3. Meeting minutes (draft and final).
4. One Addendum to the bid documents.
5. Digital, CAD files of the documents

Engineer shall submit the final reports, technical memoranda, and bid documents in both Word and .pdf formats; drawings in the latest AutoCAD version; and other deliverables required for the project to the District electronically.

5. DIGITAL SUBMITTAL REQUIREMENTS

The Engineer shall submit one hard copy and one electronic copy of the final base map that shows the project area in accordance with the following:

Digital files submitted shall be based on accurate coordinate geometry calculations and the California State Plane Coordinate System, Zone III in feet, NAD83. The digital file submitted shall be in AutoCAD Release 2000 or later, ".dwg" or ".dxf" (digital exchange format) format and shall be in one (1) drawing file containing all layers, illustrating all existing and proposed improvements within the project area as well as any off-site work associated with the project. Descriptive information (i.e. text) may be included in the appropriate layer, or added as a separate layer. Submitted digital files shall be in accordance with these minimum requirements, or as otherwise

approved by the District. Submit these digital files on a CD or via an FTP site.

Each submittal shall be labeled with the project name, project number, company name, address and phone number.

All drawings shall use the California State Plane Coordinate System – Zone 3 in units of feet. The horizontal datum shall be the North American Datum of 1983 (NAD83) in units of feet and the vertical datum shall be the National Geodetic Vertical Datum of 1988 (NAVD88) in units of feet, or other datum as authorized by the District. A note will be included on the plans with the conversion equation between NAVD88 and NGVD29 (i.e., “NAVD88 = NGVD20 + 2.71 feet).

All files shall be uncompressed. Compressed files are acceptable only when using the WinZip utility or if the appropriate software to uncompress the data is provided.

All drawing files shall have a North orientation of vertical (i.e. toward the top of the page).

Layers shall contain, but not be limited to, the layers as directed by the District.

Layer colors, line types and line weights shall be left to the discretion of the Engineer.

Submitted AutoCAD files shall NOT contain external reference or nested external reference files. All external references shall be bound into the drawing.

6. EQUIPMENT AND PIPELINE SCHEDULES

The Engineer shall provide a schedule in the design plans that list the equipment to be demolished or replaced and new equipment to be installed in the Project. The schedule shall contain at a minimum the Hansen equipment number, equipment name, location, horsepower/size, and other pertinent information associated with the equipment.

The Engineer shall provide a schedule in the design plans that list the 4-inch minimum diameter underground pipelines to be demolished or replaced and new 4-inch minimum diameter underground pipelines to be installed in the Project. The schedule shall contain at a minimum the start and end points of the pipeline, diameter, length, material,

schedule/thickness, coating, lining, type of joints, service, and test method/pressure.

7. PAYMENT TO THE ENGINEER

Payment to the Engineer shall be as called for in Article 2 of the Agreement. The Multiplier for this work shall be 2.75 the profit shall be 5 percent, and the not-to-exceed amount shall be \$573,569. A summary of the anticipated distribution of cost and manpower between tasks is shown in Exhibit A.

The following table summarizes the previously-executed and proposed task orders and amendments under the Agreement:

Task Order / Amendment	Not to Exceed Amount	Board Authorization Required?	District Staff Approval
Task Order No. 1 – Preliminary Design	\$183,789	Yes	Paul Eldredge
Task Order No. 2 – Final Design Services	\$573,569	Yes	Paul Eldredge
Total	\$757,358		

7. TIME OF COMPLETION

All work defined in this Task Order shall be complete in 300 calendar days after the execution of this Task Order and subject to the conditions of Article 3 of this Agreement. A summary of the anticipated schedule of work is shown in Exhibit B.

9. KEY PERSONNEL

Engineering personnel assigned to this Task Order No. 2 are as follows:

<u>Role</u>	<u>Key Person to be Assigned</u>
Principal-In-Charge	Craig Smith, PE
Project Manager	Joseph Huang, PE
Lead Project Engineer	Paul Rydzynski, PE

Key personnel shall not be changed except in accordance with Article 8 of the Agreement.

IN WITNESS WHEREOF, the parties hereto have made and executed this Task Order No. 2 as of _____, 2019 and therewith incorporate it as part of the Agreement.

DISTRICT

ENGINEER

UNION SANITARY DISTRICT

AECOM TECHNICAL SERVICES, INC.

By: _____
Paul R. Eldredge, P.E.
General Manager/District Engineer

By: _____
Craig Smith, P.E.
Northern California Municipal
Infrastructure District Manager

Date: _____

Date: _____

UNION SANITARY DISTRICT - CENTRIFUGE BUILDING IMPROVEMENTS PROJECT
ENGINEERING FEE ESTIMATE

	PIC Smith	PM Huang	QC van Keppel	Sr. Tech Advisors	EE Palani	Structural Vossoughi	Process Rydzynski	CE Deutscher	Mechanical Kwan	Building Mechanical Russell	Architect Vezirian	Constructabili- ty/ Estimating Coleman	Staff Engineer	Senior CAD De Anda	CAD	Admin	ODCs (incl in Mult)	Total Hours	TOTAL\$
Billing Rate ==>	\$279.00	\$230.00	\$227.00	\$284.00	\$246.00	\$199.00	\$191.00	\$233.00	\$191.00	\$214.00	\$227.00	\$151.00	\$127.00	\$143.00	\$127.00	\$85.00			
Task 1 - Project Management (10 months)																			
1.1 Monthly Progress Reports & Invoices	10	20														60		90	\$12,490
1.2 Weekly Checkins (15 min x 40 weeks)		10																10	\$2,300
1.3 Kick off Meeting	2	8			2	2	4				4		8			2		32	\$6,146
																		0	\$0
Subtotal Hours	12	38	0	0	2	2	4	0	0	0	4	0	8	0	0	62		132	
Subtotal Cost	\$3,348	\$8,740	\$0	\$0	\$492	\$398	\$764	\$0	\$0	\$0	\$908	\$0	\$1,016	\$0	\$0	\$5,270	\$0		\$20,936
Task 2 - No. 1 Water Model																			
2.1 Final PDR Filing		1											1					2	\$357
2.2 1W/2W Water Model		14		2					76				170					262	\$39,894
2.2 1W/2W Model Calibration		2		1					36				50					89	\$13,970
																		0	\$0
Subtotal Hours	0	17	0	3	0	0	0	0	112	0	0	0	221	0	0	0		353	
Subtotal Cost	\$0	\$3,910	\$0	\$852	\$0	\$0	\$0	\$0	\$21,392	\$0	\$0	\$0	\$28,067	\$0	\$0	\$0	\$0		\$54,221
Task 3 - 50 Percent Design Submittal																			
3.1 Drawings		16	16	33	86	36	85	10	20	26	24		242	33	432			1059	\$168,718
3.2 Specifications		3	3	7	17	7	17	2	4	5	5		48			93		211	\$29,617
3.3 Cost Estimate		4		4	4	4	8	4	2	4		32	8	4				78	\$13,954
3.4 Constructability, Sequencing, and Schedule		4		4	4	4	8	4	2	4		40	8	4				86	\$15,162
3.5 Meetings and Workshops	2	8			4	4	8			4			8					38	\$7,578
																		0	\$0
Subtotal Hours	2	35	19	48	115	55	126	20	28	43	29	72	314	41	432	93		1472	
Subtotal Cost	\$558	\$8,050	\$4,313	\$13,632	\$28,290	\$10,945	\$24,066	\$4,660	\$5,348	\$9,202	\$6,583	\$10,872	\$39,878	\$5,863	\$54,864	\$7,905	\$0		\$235,029
Task 4 - 90 Percent Design Submittal																			
4.1 Drawings		13	13	26	69	29	68	8	16	21	19	0	194	26	346			848	\$135,083
4.2 Specifications		3	3	5	14	6	14	2	3	4	4	0	39			74		171	\$24,149
4.3 Cost Estimate		4		4	4	4	8	4	2	4		34	8	4				80	\$14,256
4.4 Constructability, Sequencing, and Schedule		4		4	4	4	8	4	2	4		20	8	4				66	\$12,142
4.5 Meetings and Workshops	2	8			4	4	8			4			8					38	\$7,578
																		0	\$0
Subtotal Hours	2	32	16	39	95	47	106	18	23	37	23	54	257	34	346	74		1203	
Subtotal Cost	\$558	\$7,360	\$3,632	\$11,076	\$23,370	\$9,353	\$20,246	\$4,194	\$4,393	\$7,918	\$5,221	\$8,154	\$32,639	\$4,862	\$43,942	\$6,290	\$0		\$193,208
Task 5 - Final Design Submittal																			
5.1 Drawings		3	3	7	17	7	17	2	4	5	5	0	48	7	86			211	\$33,635
5.2 Specifications		1	1	1	3	1	3	0	1	1	1		10			19		42	\$5,768
5.3 Cost Estimate		4		4	4	4	8	4	2	4		34	8	4				80	\$14,256
Subtotal Hours	0	8	4	12	24	12	28	6	7	10	6	34	66	11	86	19		333	
Subtotal Cost	\$0	\$1,840	\$908	\$3,408	\$5,904	\$2,388	\$5,348	\$1,398	\$1,337	\$2,140	\$1,362	\$5,134	\$8,382	\$1,573	\$10,922	\$1,615	\$0		\$53,659
Task 6 - Bid Period Services																			
6.1 Attend Site Walk		8					4						16					28	\$4,636
6.2 Answer Bidder Questions, Produce Addenda		8			2	8	8	2	4	2	2	2	16	2	8	8		72	\$11,880
																		0	\$0
Subtotal Hours	0	16	0	0	2	8	12	2	4	2	2	2	32	2	8	8		100	
Subtotal Cost	\$0	\$3,680	\$0	\$0	\$492	\$1,592	\$2,292	\$466	\$764	\$428	\$454	\$302	\$4,064	\$286	\$1,016	\$680	\$0		\$16,516
TOTAL HOURS	16	146	39	102	238	124	276	46	174	92	64	162	898	88	872	256	0	3593	
TOTAL COSTS	\$4,464	\$33,580	\$8,853	\$28,968	\$58,548	\$24,676	\$52,716	\$10,718	\$33,234	\$19,688	\$14,528	\$24,462	\$114,046	\$12,584	\$110,744	\$21,760	\$0		\$573,569

Exhibit B - UNION SANITARY DISTRICT - CENTRIFUGE BUILDING IMPROVEMENTS PROJECT - SCHEDULE

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessor	Sep	4th Quarter	Oct	Nov	Dec	1st Quarter	Jan	Feb	Mar	2nd Quarter	Apr	May	Jun	3rd Quarter	Jul	Aug
1		PROJECT SCHEDULE																				
2		NOTICE TO PROCEED	0 days	Tue 10/1/19	Tue 10/1/19																	
3		Task 1 - Project Management	214 days	Tue 10/1/19	Mon 7/27/20																	
4		1.1 Monthly Progress Reports & Invoices	214 days	Tue 10/1/19	Mon 7/27/20	2SS																
5		1.2 Weekly Check-ins	214 days	Tue 10/1/19	Mon 7/27/20	2																
6		1.3 Kickoff Meeting	0 days	Tue 10/8/19	Tue 10/8/19	2SS+5 da																
7		Task 2 - No. 1 Water Model	70 days	Tue 10/1/19	Tue 1/7/20																	
8		2.1 Update PDR Filing	5 days	Tue 10/1/19	Tue 10/8/19	2																
9		2.2 1W/2W Water Model	70 days	Tue 10/1/19	Tue 1/7/20	2																
10		Perform 1W/2W Water Model Analysis	25 days	Tue 10/1/19	Tue 11/5/19	2																
11		Water Model Calibration	15 days	Tue 11/5/19	Tue 11/26/19	10																
12		Prepare Draft TM	10 days	Tue 11/26/19	Tue 12/10/19	11																
13		Draft TM	0 days	Tue 12/10/19	Tue 12/10/19	12																
14		District Review	10 days	Tue 12/10/19	Tue 12/24/19	13																
15		Final TM	0 days	Tue 1/7/20	Tue 1/7/20	14FS+10																
16		Task 3 - 50 Percent Design Submittal	85 days	Tue 10/8/19	Tue 2/4/20																	
17		3.1 Drawings	70 days	Tue 10/8/19	Tue 1/14/20	6																
18		3.2 Specifications	70 days	Tue 10/8/19	Tue 1/14/20	17SS																
19		3.3 Cost Estimate	10 days	Tue 1/14/20	Tue 1/28/20	17																
20		3.4 Constructability, Sequencing, and Schedule	20 days	Tue 12/17/19	Tue 1/14/20	17SS+50																
21		Submit 60 Percent Documents	0 days	Tue 1/14/20	Tue 1/14/20	17,18																
22		Submit 60 Percent Cost Estimate	0 days	Tue 1/28/20	Tue 1/28/20	19																
23		3.5 Meetings and Workshops	0 days	Tue 1/21/20	Tue 1/21/20	21FS+5 d																
24		District Review	15 days	Tue 1/14/20	Tue 2/4/20	21																
25		Task 4 - 90 Percent Design Submittal	50 days	Tue 2/4/20	Tue 4/14/20																	
26		4.1 Drawings	35 days	Tue 2/4/20	Tue 3/24/20	24																
27		4.2 Specifications	35 days	Tue 2/4/20	Tue 3/24/20	26SS																
28		4.3 Cost Estimate	10 days	Tue 3/24/20	Tue 4/7/20	26																
29		4.4 Constructability, Sequencing, and Schedule	15 days	Tue 3/3/20	Tue 3/24/20	26SS+20																
30		Submit 90 Percent Documents	0 days	Tue 3/24/20	Tue 3/24/20	26,27																
31		4.5 Meetings and Workshops	0 days	Tue 3/31/20	Tue 3/31/20	30FS+5 d																
32		District Review	15 days	Tue 3/24/20	Tue 4/14/20	30																
33		Task 5 - Final Design Submittal	40 days	Tue 4/14/20	Tue 6/9/20																	
34		5.1 Drawings	30 days	Tue 4/14/20	Tue 5/26/20	32																
35		5.2 Specifications	30 days	Tue 4/14/20	Tue 5/26/20	34SS																
36		5.3 Cost Estimate	10 days	Tue 5/26/20	Tue 6/9/20	34																
37		Submit 100 Percent Documents	0 days	Tue 5/26/20	Tue 5/26/20	34																
38		Submit 100 Percent Cost Estimate	0 days	Tue 6/9/20	Tue 6/9/20	36																
39		Task 6 - Bid Period Services	44 days	Tue 5/26/20	Mon 7/27/20																	
40		Advertise Project	0 days	Tue 5/26/20	Tue 5/26/20	37																
41		Site Walk	0 days	Tue 6/2/20	Tue 6/2/20	40FS+5 d																
42		Answer Bidder Questions, Produce Addenda	44 days	Tue 5/26/20	Mon 7/27/20	40SS																
43		Bid Date	0 days	Mon 7/27/20	Mon 7/27/20	42																

**Directors**

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 11**

TITLE: **Annual Report to Union City Fiscal Year 2019 (*This is an Information Item*)**

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
 Armando Lopez, Work Group Manager
 Tim Grillo, R&S Team Coach

Recommendation

Information only.

Previous Board Action

None

Background

Union City Use Permit UP-4-95 requires the District to submit a report annually to the City Manager's Office. The purpose of the report is to:

1. Document the existing wastewater treatment plant flow
2. Provide a projection of the plant flow for the following year
3. Review compliance with effluent discharge limits
4. Provide a status report on progress made in the development of any new treatment facilities outside of the Union City limits.

A copy of the District's annual report to Union City for FY 2019 is attached for review.



Directors
Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers
Paul R. Eldredge, P.E.
General Manager
District Engineer

Karen W. Murphy
Attorney

Date: August 28, 2019

Ms. Joan Mallory
City Manager, City of Union City
34009 Alvarado-Niles Road
Union City, CA 94587

SUBJECT: SUBMISSION OF ANNUAL REPORT FOR UNION SANITARY DISTRICT FOR FISCAL YEAR 2019

Dear Ms. Mallory,

Pursuant to Union City Use Permit (UP-4-95), Union Sanitary District hereby submits its Annual Report for Fiscal Year 2019.

Introduction

The Union City Planning Commission approved Use Permit No. UP-4-95 on July 20, 1995 that allowed for the expansion of the Union Sanitary District (USD) Alvarado Wastewater Treatment Plant from a capacity of 35 million gallons per day (MGD) to 38 MGD. The Use Permit requires the District to submit an annual report to the City Manager's office documenting the current wastewater flow received at the Alvarado Treatment Plant, a projection of flows for the next year, the current discharge limits imposed by the Regional Water Quality Control Board (RWQCB), and a status report on progress made toward development of any new facilities outside of Union City limits (Condition 9).

A second condition (Condition 6) requiring an annual operations audit by an independent expert was eliminated by mutual agreement of USD's General Manager, Richard Currie, and Union City's City Manager, Larry Cheeves, in January 2005 following more than 10 years of perfect NPDES permit compliance.

Background

Union Sanitary District, founded in 1918, collects and treats wastewater from the communities of Union City, Newark, and Fremont, California. The District owns

5072 Benson Road Union City, CA 94587-2508
P.O. Box 5050 Union City, CA 94587-8550
(510) 477-7500 FAX (510) 477-7505
www.unionsanitary.com

and operates a wastewater treatment plant located in Union City. Treated effluent is discharged through the Easy Bay Dischargers Authority (EBDA) outfall into San Francisco Bay. A portion of the effluent is diverted to Hayward Marsh from the EBDA force main as a beneficial use of reclaimed wastewater.

The Alvarado Wastewater Treatment Facility was completed in 1981 and was originally rated for a design flow of 19.7 MGD. A Plant Expansion Project increased treatment capacity in 1985 and further modifications were made in 1993. The firm reliable treatment capacity of 33 MGD was confirmed in 1997. Construction to renew and replace aging equipment is a continual and ongoing process. In 2019, a study of alternatives was completed to determine upgrades necessary to meet more stringent requirements for nutrient expected in 2024 under the third nutrient watershed permit.

Current Wastewater Flow

The following is a summary of the average dry weather flow (ADWF) and annual average daily flow (AADF) for recent fiscal years. The Alvarado Treatment Facility is permitted to treat an ADWF flow of 33 MGD under the current National Pollution Discharge Elimination System (NPDES) permit. The ADWF is defined as the average flow during the summer months of May through September. The AADF is defined as the annual average daily flow throughout the fiscal year including both wet and dry seasons.

Fiscal Year	ADWF Permitted by NPDES, MGD	Actual ADWF, MGD	Actual AADF, MGD
2015	33	22.6	22.9
2016	33	21.9	22.8
2017	33	22.7	24.4
2018	33	23.3	23.3
2019	33	23.0	23.7

During FY19, an average effluent flow of 3.0 MGD was reused at the Hayward Shoreline Marsh.

Projected Wastewater Flows

The annual average daily flow (AADF) increased slightly in FY19. However, the the annual dry weather flow (ADWF) decreased slightly from the previous year.

We expect the trend in wastewater flow to continue in FY20. Based on the last five years flow data we predict an annual average daily flow of 23.8 MGD and an average dry weather flow of 24.1 MGD for FY20.

Discharge Compliance and Permit Limits

We are pleased to report that the District has achieved full compliance with NPDES discharge requirements in FY19. USD was recognized by the National Association of Clean Water Agencies (NACWA) under their Peak Performance Award program for the 26th consecutive year. In 2019, USD received a 10th Platinum award for calendar year 2018 from NACWA, which is awarded for maintaining perfect compliance with the NPDES permit for five consecutive years.

The San Francisco Regional Water Quality Control Board adopted the second nutrient watershed permit in 2019. The watershed permit includes monitoring requirements and nutrient loading targets for permitted agencies based on the subembayments that they discharge to within the San Francisco Bay. It is expected that the information collected during this watershed permit will lead to the establishment of nutrient limits in the subsequent watershed permit in 2024. We anticipate that future changes to the ammonia limitations could require substantial improvement to the treatment plant to provide for the removal of nutrients.

The flow to the treatment plant has increased marginally in recent years and is not expected to exceed the permitted capacity of the treatment plant within our planning horizon. However, there has been a more substantial increase in the mass loading of conventional pollutants and ammonia. The District completed the Solids Capacity Assessment Study in September of 2018 to determine whether solids treatment systems have adequate capacity to treat loading of conventional pollutants expected in the future. Based on the results of the study, the District conducted the Secondary Treatment Process Improvements Project to develop alternatives to accommodate increased loading of conventional pollutants expected in the future, provide for nutrient removal that will likely be required in future watershed permits, and provide for the management of wet weather flows that will be needed when the Hayward Marsh ceases operation. The Secondary Treatment Process Improvements Project was completed and accepted by the USD Board of Directors in August 2019. As a result of these studies, the District has identified the Enhanced Secondary Treatment and Site Upgrade (ETSU) Project to implement the recommended alternative identified by the Secondary Treatment Process Improvements Project. Design for the ETSU project is expected to begin in FY20.

Development of Facilities Outside Union City

The District is currently participating in a reclaimed water feasibility study in conjunction with ACWD and SFPUC.

The ETSU project will not increase the flow capacity of the Union Sanitary District treatment plant. As a result, the District has no plans for the construction of additional treatment outside the City of Union City.

If you have any questions or need additional information, please contact me at (510)477-7517 or email at armandol@unionsanitary.ca.gov.

Armando Lopez
Manager, Treatment & Disposal



Directors
Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers
Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 12**

TITLE: **Agreement with Carollo Engineers, Inc. for General Engineering Services (*This is an Information Item*)**

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
 Sami E. Ghossain, Technical Services Work Group Manager
 Raymond Chau, CIP Team Coach

Recommendation

Information only.

Previous Board Action

None.

Background

Staff had previously executed four agreements with Carollo Engineers, Inc. to provide general engineering services to the District. These agreements provided a timesaving process for staff to obtain engineering services without having to negotiate separate agreements for designs and evaluations of small projects. Carollo has completed numerous studies and designs for the District since 1990 and is very knowledgeable of the District's treatment plant and pump station facilities.

On July 6, 2015, staff executed the last agreement at a total not-to-exceed amount of \$50,000 for a two-year period. Staff executed Amendment No. 1 to add \$12,000 to the agreement total and extend the agreement one additional year to July 6, 2018. Staff executed Amendment No. 2 to extend the agreement one additional year to July 6, 2019 with no budget adjustments.

There were six task orders approved under this agreement at a total not-to-exceed amount of \$59,245, and they are summarized in Table 1.

On September 5, 2019, staff executed a new agreement with Carollo for a not-to-exceed amount of \$50,000 over a two-year period.

Table 1 – Summary of Task Orders for Agreement (2015-2019)

Task Order Number	Task Order Execution Date	Description	Not-to-Exceed Amount	Amount Paid
1	July 7, 2015	Examine the Fuel Island Canopy for Structural Damage	\$1,000	\$1,000
2	September 1, 2015	Assess the Contingencies during Complete Utility and Generator Power Outage at Newark Pump Station during Boost Mode	\$15,261	\$15,081.66
3	June 26, 2017	Evaluate the Potential Impacts on the Force Main Hydraulics of Additional Flows to Cherry Street Pump Station from Potential Development	\$19,902	\$14,782.21
4	March 13, 2019	Evaluate the Hydraulic Capacity of Cherry Street Pump Station Due to the Additional Flows from Potential Developments	\$11,346	\$9,088.75
5	March 21, 2019	Evaluate the Hydraulics if the Flows from the Alvarado Effluent Pump Station and Hayward Effluent Pump Station Bypass the Oro Loma Effluent Pump Station	\$7,700	\$7,692.42
6	April 22, 2019	Evaluate the Energy Efficiency of Aeration Blower No. 12	\$4,036	\$3,774
		Total	\$59,245	\$51,419.04

PRE/SEG/RC/mb

Attachment: Agreement

**GENERAL ENGINEERING SERVICES
AGREEMENT
BETWEEN
UNION SANITARY DISTRICT
AND
CAROLLO ENGINEERS, INC.
FOR
PROFESSIONAL SERVICES**

THIS IS AN AGREEMENT MADE AS OF September 5, 2019,
BETWEEN UNION SANITARY DISTRICT (hereinafter referred to as District),
and CAROLLO ENGINEERS, INC. (hereinafter referred to as Engineer).

WITNESSETH:

WHEREAS, District intends to perform multiple projects that will require on-call services for engineering evaluations and engineering design (hereinafter referred to as Project), and,

WHEREAS, District requires certain professional services in connection with the Project (hereinafter referred as Services); and

WHEREAS, Engineer is qualified and prepared to provide such Services;

NOW, THEREFORE, in consideration of the promises contained herein, the parties agree as follows:

ARTICLE 1 - SERVICES TO BE PERFORMED BY ENGINEER

- 1.1 Specific Services and the associated scope of services, payment, schedule, and personnel will be defined in specific Task Order as mutually agreed by District and Engineer.
- 1.2 All Task Orders will by reference incorporate the terms and conditions of this Agreement, and become formal amendments hereto.

ARTICLE 2 - COMPENSATION

- 2.1 Compensation for consulting services performed under this Agreement shall include:

- (1) Direct labor costs, multiplied by an agreed upon fixed factor (the Multiplier), to compensate for fringe benefits, indirect costs, and profit.
- (2) Non-labor direct project charge not included in the fixed factor and acceptable, without any markup.
- (3) Subconsultant costs, with a maximum markup of 5%.

Definitions are as follows:

- (a) Direct labor is salaries and wages paid to personnel for time directly chargeable to the project. Direct labor does not include the cost of Engineer's statutory and customary benefits, such as sick leave, holidays, vacations, and medical and retirement benefits nor the cost of the time of executive and administrative personnel and others whose time is not identifiable to the project.
- (b) Fringe benefits include Engineer's statutory and customary benefits, such as sick leave, holidays, vacations, medical and retirement benefits, incentive pay, tuition, and other costs classified as employee benefits.
- (c) Indirect costs are allocations of costs that are not directly chargeable to a specific engagement and are commonly referred to as Engineer's overhead. Indirect costs include provisions for such things as clerical support, office space, light and heat, insurance, statutory and customary employee benefits, and the time of executive and administrative personnel and others whose time is not identifiable to the Project or to any other project. Under no circumstances can the same labor costs be charged as direct labor and also appear at the same time as indirect costs, and vice versa.
- (d) The Multiplier is a multiplicative factor which is applied to direct labor costs, and compensates Engineer for fringe benefits and indirect costs (overhead) and profit.
- (e) Other non-labor direct project charges shall be included in the overhead and these charges include typical expenses as cost of transportation and subsistence, printing and reproduction, computer time and programming costs, identifiable supplies, outside consultant's charges, subcontracts, and charges by reviewing authorities.

Alternatively, the District and the Engineer may agree to utilize the fully-encumbered hourly rates and fees for Services performed by the Engineer. These hourly rates and fees shall be based on the Engineer's rate schedule published at the time this Agreement or Task Order is executed and shall be attached to each applicable Task Order.

- 2.2 Reimbursement for mileage shall not exceed the prevailing Internal Revenue Service's standard mileage rate.
- 2.3 A *Cost Ceiling* will be established for each Task Order which is based upon estimated labor-hours and cost estimates. Costs as described above, comprising direct labor, overhead cost, and other direct costs, shall be payable up to a Cost Ceiling as specified in the Task Order. A *Maximum Fee Ceiling*, or *Task Order Firm Ceiling*, will also be established for each Task Order which includes the Cost Ceiling plus the Professional Fee.
- 2.4 Engineer shall invoice District monthly for the actual costs incurred, and a pro-rated portion of the Professional Fee for work performed during the previous month. If the Maximum Fee Ceiling is reached, the Engineer will complete the agreed-upon work for the Maximum Fee Ceiling. With District staff approval, labor hours may be reallocated within the tasks without renegotiation in such a manner so as not to exceed the Maximum Fee Ceiling.
- 2.5 The Engineer shall provide the District with a review of the budget amounts when 75 percent of the Cost Ceiling for any task has been expended. Engineer may request a revision in the Cost Ceiling for performance of this Agreement, and will relate the rationale for the revision to the specific basis of estimate as defined in the Scope of Services. Such notification will be submitted to the District at the earliest possible date. The authorized Cost Ceiling shall not be exceeded without written approval of the District.
- 2.6 The Professional Fee will not be changed except in the case of a written amendment to the Agreement which alters the Scope of Services. District and Engineer agree to negotiate an increase or decrease in Cost Ceiling and Professional Fee for any change in Scope of Services required at any time during the term of this Agreement. Engineer will not commence work on the altered Scope of Services until authorized by District.
- 2.7 Direct labor rates are subject to revision to coincide with Engineer's normal salary review schedule. Adjustments in direct labor rates shall

not affect the firm ceiling without prior written authorization of the District.

- 2.8 District shall pay Engineer in accordance with each Task Order for Services.
- 2.9 Engineer shall submit monthly statements for Services rendered. District will make prompt monthly payments in response to Engineer's monthly statements.

ARTICLE 3 - PERIOD OF SERVICE

- 3.1 Engineer's services will be performed and the specified services rendered and deliverables submitted within the time period or by the date stipulated in each Task Order.
- 3.2 Engineer's services under this Agreement will be considered complete when the services are rendered and/or final deliverable is submitted and accepted by District.
- 3.3 If any time period within or date by which any of the Engineer's services are to be completed is exceeded through no fault of Engineer, all rates, measures and amounts of compensation and the time for completion of performance shall be subject to equitable adjustment.

ARTICLE 4 - DISTRICT'S RESPONSIBILITIES

District will do the following in a timely manner so as not to delay the services of Engineer.

- 4.1 Provide all criteria and full information as to District's requirements for the services assignment and designate in writing a person with authority to act on District's behalf on all matters concerning the Engineer's services.
- 4.2 Furnish to Engineer all existing studies, reports and other available data pertinent to the Engineer's services, obtain or authorize Engineer to obtain or provide additional reports and data as required, and furnish to Engineer services of others required for the performance of Engineer's services hereunder, and Engineer shall be entitled to use and rely upon all such information and services provided by District or others in performing Engineer's services under this Agreement.
- 4.3 Arrange for access to and make all provisions for Engineer to enter upon public and private property as required for Engineer to perform services hereunder.

- 4.4 Perform such other functions as are indicated in each Task Order related to duties of District.
- 4.5 Bear all costs incident to compliance with the requirements of this Section.

ARTICLE 5 - STANDARD OF CARE

- 5.1 Engineer shall exercise the same degree of care, skill, and diligence in the performance of the Services as is ordinarily provided by a professional Engineer under similar circumstance and Engineer shall, at no cost to District, re-perform services which fail to satisfy the foregoing standard of care.

ARTICLE 6 - OPINIONS OF COST AND SCHEDULE

- 6.1 Since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over contractors', subcontractors' , or vendors' methods of determining prices, or over competitive bidding or market conditions or economic conditions, Engineer's cost estimate and economic analysis shall be made on the basis of qualification and experience as a professional engineer.
- 6.2 Since Engineer has no control over the resources provided by others to meet contract schedules, Engineer's forecast schedules shall be made on the basis of qualification and experience as a professional Engineer.
- 6.3 Engineer cannot and does not guarantee that proposals, bids or actual project costs will not vary from his cost estimates or that actual schedules will not vary from his forecast schedules.

ARTICLE 7 - SUBCONTRACTING

- 7.1 No subcontract shall be awarded by Engineer until prior written approval is obtained from the District.

ARTICLE 8 - ENGINEER-ASSIGNED PERSONNEL

- 8.1 Engineer shall designate in writing an individual to have immediate responsibility for the performance of the services and for all matters relating to performance under this Agreement. Key personnel to be assigned by Engineer will be stipulated in each Task Order. Substitution of any assigned person shall require the prior written approval of the District, which shall not be unreasonably withheld. If

the District determines that a proposed substitution is not responsible or qualified to perform the services then, at the request of the District, Engineer shall substitute a qualified and responsible person.

ARTICLE 9 - OWNERSHIP OF DOCUMENTS

- 9.1 All work products, drawings, data, reports, files, estimate and other such information and materials (except proprietary computer programs, including source codes purchased or developed with Engineer monies) as may be accumulated by Engineer to complete services under this Agreement shall be owned by the District.
- 9.2 Engineer shall retain custody of all project data and documents other than deliverables specified in each Task Order, but shall make access thereto available to the District at all reasonable times the District may request. District may make and retain copies for information and reference.
- 9.3 All deliverables and other information prepared by Engineer pursuant to this Agreement are instruments of service in respect to this project. They are not intended or represented to be suitable for reuse by District or others on extensions of this Project or on any other project. Any reuse without written verification or adaptation by Engineer for the specific purpose intended will be at District's sole risk and without liability or legal exposure to Engineer; and District shall indemnify and hold harmless Engineer against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from such reuse. Any such verification or adaptation will entitle Engineer to further compensation at rates to be agreed upon by District and Engineer.

ARTICLE 10 - RECORDS OF LABOR AND COSTS

- 10.1 Engineer shall maintain for all Task Orders, records of all labor and costs used in claims for compensation under this Agreement. Records shall mean a contemporaneous record of time for personnel; a methodology and calculation of the Multiplier for fringe benefits and indirect costs; and invoices, time sheets, or other factors used as a basis for determining other non-labor Project charges. These records must be made available to the District upon reasonable notice of no more than 48 hours during the period of the performance of this Agreement.
- 10.2 After delivery of Services (completion of Task Orders) under this Agreement, the Engineer's records of all costs used in claims for compensation under this Agreement shall be available to District's

accountants and auditors for inspection and verification. These records will be maintained by Engineer and made reasonably accessible to the District for a period of three (3) years after completion of Task Orders under this Agreement.

- 10.3 Engineer agrees to cooperate and provide any and all information concerning the Project costs which are a factor in determining compensation under this Agreement as requested by the District or any public agency which has any part in providing financing for, or authority over, the Services which are provided under the Agreement.
- 10.4 Failure to provide documentation or substantiation of all Project costs used as a factor in compensation paid under Article 2 hereof will be grounds for District to refuse payment of any statement submitted by the Engineer and for a back charge for any District funds, including interest from payment; or grant, matching, or other funds from agencies assisting District in financing the Services specified in this Agreement.

ARTICLE 11 - INSURANCE

Engineer shall provide and maintain at all times during the performance of the Agreement the following insurances:

- 11.1 Workers' Compensation and Employer's Liability Insurance for protection of Engineer's employees as required by law and as will protect Engineer from loss or damage because of personal injuries, including death to any of his employees.
- 11.2 Comprehensive Automobile Liability Insurance. Engineer agrees to carry a Comprehensive Automobile Liability Policy providing bodily injury liability. This policy shall protect Engineer against all liability arising out of the use of owned or leased automobiles both passenger and commercial. Automobiles, trucks, and other vehicles and equipment (owned, not owned, or hired, licensed or unlicensed for road use) shall be covered under this policy. Limits of liability for Comprehensive Automobile Liability Insurance shall not be less than \$1,000,000 Combined Single Limit.
- 11.3 Comprehensive General Liability Insurance as will protect Engineer and District from any and all claims for damages or personal injuries, including death, which may be suffered by persons, or for damages to or destruction to the property of others, which may arise from the Engineer's operations under this Agreement, which insurance shall name the District as additional insured. Said insurance shall provide a minimum of \$1,000,000 Combined Single Limit coverage for personal

injury, bodily injury, and property damage for each occurrence and aggregate. Such insurance will insure Engineer and District from any and all claims arising from the following:

1. Personal injury;
2. Bodily injury;
3. Property damage;
4. Broad form property damage;
5. Independent contractors;
6. Blanket contractual liability.

11.4 Engineer shall maintain a policy of professional liability insurance, protecting it against claims arising out of negligent acts, errors, or omissions of Engineer pursuant to this Agreement, in an amount of not less than \$1,000,000. The said policy shall cover the indemnity provisions under this Agreement.

11.5 Engineer agrees to maintain such insurance at Engineer's expense in full force and effect in a company or companies satisfactory to the District. All coverage shall remain in effect until completion of the Project.

11.6 Engineer will furnish the District with certificates of insurance and endorsements issued by Engineer's insurance carrier and countersigned by an authorized agent or representative of the insurance company. The certificates shall show that the insurance will not be cancelled without at least thirty (30) days' prior written notice to the District. The certificates for liability insurance will show that liability assumed under this Agreement is included. The endorsements will show the District as an additional insured on Engineer's insurance policies for the coverage required in Article 11 for services performed under this Agreement, except for workers' compensation and professional liability insurance.

11.7 Waiver of Subrogation: Engineer hereby agrees to waive subrogation which any insurer of Engineer may acquire from Engineer by virtue of the payment of any loss. Engineer agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the District for all work performed by the Engineer, its employees, agents and subconsultants.

ARTICLE 12 - LIABILITY AND INDEMNIFICATION

- 12.1 Having considered the risks and potential liabilities that may exist during the performance of the Services, and in consideration of the promises included herein, District and Engineer agree to allocate such liabilities in accordance with this Article 12. Words and phrases used in this Article shall be interpreted in accordance with customary insurance industry usage and practice.
- 12.2 Engineer shall indemnify and save harmless the District and all of their agents, officers, and employees from and against all claims, demands, or causes of action of every name or nature to the extent caused by the negligent error, omission, or act of Engineer, its agents, servants, or employees in the performance of its services under this Agreement.
- 12.3 In the event an action for damages is filed in which negligence is alleged on the part of District and Engineer, Engineer agrees to defend District. In the event District accepts Engineer's defense, District agrees to indemnify and reimburse Engineer on a pro rata basis for all expenses of defense and any judgment or amount paid by Engineer in resolution of such claim. Such pro rata share shall be based upon a final judicial determination of negligence or, in the absence of such determination, by mutual agreement.
- 12.4 Engineer shall indemnify District against legal liability for damages arising out of claims by Engineer's employees. District shall indemnify Engineer against legal liability for damages arising out of claims by District's employees.
- 12.5 Indemnity provisions will be incorporated into all Project contractual arrangements entered into by District and will protect District and Engineer to the same extent.
- 12.6 Upon completion of all services, obligations and duties provided for in the Agreement, or in the event of termination of this Agreement for any reason, the terms and conditions of this Article shall survive.
- 12.7 To the maximum extent permitted by law, Engineer's liability for District's damage will not exceed the aggregate compensation received by Engineer under this Agreement or the maximum amount of professional liability insurance available at the time of any settlement or judgment, which ever is greater.

ARTICLE 13 - INDEPENDENT CONTRACTOR

Engineer undertakes performance of the Services as an independent contractor and shall be wholly responsible for the methods of performance. District will have no right to supervise the methods used, but District will have the right to observe such performance. Engineer shall work closely with District in performing Services under this Agreement.

ARTICLE 14 - COMPLIANCE WITH LAWS

In performance of the Services, Engineer will comply with applicable regulatory requirements including federal, state, and local laws, rules, regulations, orders, codes, criteria and standards. Engineer shall procure the permits, certificates, and licenses necessary to allow Engineer to perform the Services. Engineer shall not be responsible for procuring permits, certificates, and licenses required for any construction unless such responsibilities are specifically assigned to Engineer in Task Order.

ARTICLE 15 - NONDISCLOSURE OF PROPRIETARY INFORMATION

Engineer shall consider all information provided by District and all drawings, reports, studies, design calculations, specifications, and other documents resulting from the Engineer's performance of the Services to be proprietary unless such information is available from public sources. Engineer shall not publish or disclose proprietary information for any purpose other than the performance of the Services without the prior written authorization of District or in response to legal process.

ARTICLE 16 - TERMINATION OF CONTRACT

- 16.1 The obligation to continue Services under this Agreement may be terminated by either party upon seven days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.
- 16.2 District shall have the right to terminate this Agreement or suspend performance thereof for District's convenience upon written notice to Engineer, and Engineer shall terminate or suspend performance of Services on a schedule acceptable to District. In the event of termination or suspension for District's convenience, District will pay Engineer for all services performed and costs incurred including termination or suspension expenses. Upon restart of a suspended project, equitable adjustment shall be made to Engineer's compensation.

ARTICLE 17 - UNCONTROLLABLE FORCES

- 17.1 Neither District nor Engineer shall be considered to be in default of this Agreement if delays in or failure of performance shall be due to uncontrollable forces, the effect of which, by the exercise of reasonable diligence, the nonperforming party could not avoid. The term "uncontrollable forces" shall mean any event which results in the prevention or delay of performance by a party of its obligations under this Agreement and which is beyond the control of the nonperforming party. It includes, but is not limited to, fire, flood, earthquake, storms, lightening, epidemic, war, riot, civil disturbance, sabotage, inability to procure permits, licenses, or authorizations from any state, local, or federal agency or person for any of the supplies, materials, accesses, or services required to be provided by either District or Engineer under this Agreement, strikes, work slowdowns or other labor disturbances, and judicial restraint.
- 17.2 Neither party shall, however, be excused from performance if nonperformance is due to uncontrollable forces which are removable or remediable, and which the nonperforming party could have, with the exercise of reasonable diligence, removed or remedied with reasonable dispatch. The provisions of this Article shall not be interpreted or construed to require Engineer or District to prevent, settle, or otherwise avoid a strike, work slowdown, or other labor action. The nonperforming party shall, within a reasonable time of being prevented or delayed from performance by an uncontrollable force, give written notice to the other party describing the circumstances and uncontrollable forces preventing continued performance of the obligations of this Agreement. The Engineer will be allowed reasonable negotiated extension of time or adjustments for District initiated temporary stoppage of services.

ARTICLE 18 - MISCELLANEOUS

- 18.1 A waiver by either District or Engineer of any breach of this Agreement shall not be binding upon the waiving party unless such waiver is in writing. In the event of a written waiver, such a waiver shall not affect the waiving party's rights with respect to any other or further breach.
- 18.2 The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void, shall in no way effect the validity or enforceability of any other portion or provision of the Agreement. Any void provision shall be deemed severed from the Agreement and the balance of the Agreement shall be construed and enforced as if the

Agreement did not contain the particular portion or provision held to be void.

ARTICLE 19 - INTEGRATION AND MODIFICATION

- 19.1 This Agreement (consisting of pages 1 to 14), together with all Task Orders executed by the undersigned, is adopted by District and Engineer as a complete and exclusive statement of the terms of the Agreement between District and Engineer. This Agreement supersedes all prior agreements, contracts, proposals, representations, negotiations, letters, or other communications between the District and Engineer pertaining to the Services, whether written or oral.
- 19.2 The Agreement may not be modified unless such modifications are evidenced in writing signed by both District and Engineer.

ARTICLE 20 - SUCCESSORS AND ASSIGNS

- 20.1 District and Engineer each binds itself and its directors, officers, partners, successors, executors, administrators, assigns and legal representatives to the other party to this Agreement and to the partners, successors, executors, administrators, assigns, and legal representatives of such other party, in respect to all covenants, agreements, and obligations of this Agreement.
- 20.2 Neither District nor Engineer shall assign, sublet, or transfer any rights under or interest in (including, but without limitation, monies that may become due or monies that are due) this Agreement without the written consent of the other, except to the extent that the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. Nothing contained in this paragraph shall prevent Engineer from employing such independent engineers, associates, and subcontractors as he may deem appropriate to assist him/her in the performance of the Services hereunder and in accordance with Article 7.
- 20.3 Nothing herein shall be construed to give any rights or benefits to anyone other than District and Engineer.

ARTICLE 21 – INFORMATION SYSTEM SECURITY

When the District determines this article is applicable, the Engineer shall obtain written approval from the District representative prior to accessing District internal

systems through real-time computer connections. Upon approval, the Engineer will use only in-bound connections to accomplish a legitimate business need and a previously defined and approved task. As a condition of approval, the Engineer shall:

- a) Be running a current operating system supported by the District with up-to-date security patches applied as defined in the District COE/Non-COE document.
- b) Have anti-virus software installed on his/her personal computer with up-to-date virus signatures.
- c) Have personal firewall software installed and enabled on their computer.
- d) Understand and sign the District's Electronic Equipment Use Policy, number 2160.

The District reserves the right to audit the security measures in effect on Engineer's connected systems without prior notice. The District also reserves the right to terminate network connections immediately with all Engineer's systems not meeting the above requirements.

ARTICLE 22 – EMPLOYEE BACKGROUND CHECK

When the District determines this article is applicable, the Engineer, at no additional expense to the District, shall conduct a background check for each of its employees, as well as for the employees of its subconsultants and subcontractors, who will have access to District's computer systems, either through on-site or remote access (collectively "Engineer Employees"), or whose contract work requires a presence on the District's premises. The minimum background check process for any District consultant shall include, but not be limited to, the following:

1. Criminal felony and misdemeanor records search of the employee's county and state of residence, and
2. Federal criminal records search of the National Criminal Database.

The background check shall be conducted and the results submitted to the District prior to initial access by Engineer Employees. If at any time it is discovered that any Engineer Employee has a criminal record that includes a felony or misdemeanor, the Engineer is required to inform the District immediately and the District will assess the circumstances surrounding the conviction, time frame, nature, gravity, and relevancy of the conviction to the job duties, to determine whether the Engineer Employee will be placed on a District assignment. The District may withhold consent at its sole discretion. The District may also conduct its own criminal background check of the Engineer Employees. Failure of the Engineer to comply with the terms of this paragraph may result in the termination of its contract with the District.

ARTICLE 23 - EXCEPTIONS

23.1 Add new Article 2.10 to read as follows:

"2.10 Total compensation shall not exceed \$25,000 per year for two (2) years. Overall compensation shall not exceed \$50,000."

23.2 Add new Article 3.4 to read as follows:

"3.4 The term of this Agreement shall be two (2) years from the date of this Agreement."


IN WITNESS THEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

UNION SANITARY DISTRICT

By: 
Sami E. Ghossain, P.E.
Technical Services Manager

Date: 9/5/19

CAROLLO ENGINEERS, INC.

By: 
Scott E. Parker, P.E.
Senior Vice President

Date: 8/23/19

By: 
Christopher T. Cleveland, P.E.
Senior Vice President

Date: 8/23/19



Directors
Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers
Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 13**

TITLE: **Status of Priority 1 Capital Improvement Program Projects (*This is an Information Item*)**

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
 Sami E. Ghossain, Technical Services Work Group Manager

Recommendation

Information only.

Previous Board Action

None.

Background

In June 2018, the Board approved the Capital Improvement Program (CIP) budget for FY19 in the amount of \$9.29 million for the design and construction of 31 CIP projects.

These 31 projects are ranked as Priority 1, 2, or 3 projects based on criteria prepared by staff and approved by the Executive Team. A copy of the criteria used to prioritize the projects is attached for your reference.

The status of the Priority 1 CIP projects is reviewed by the Executive Team at the end of each quarter and a copy of the status report is attached for the Board's review. For FY19, 12 projects are ranked as Priority 1 projects and the remaining 19 are ranked as Priority 2 or Priority 3 projects.

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Meeting of September 23, 2019
Page 2

Also attached is a tabular summary of the number and nature of the ongoing CIP projects at the District during FY19.

PRE/SEG:mb

Attachments: Priority 1 CIP Projects for FY19 - Status Report
Summary of CIP Projects for FY19
Priority 1 CIP Project Criteria
Priority 2 & 3 CIP Project Criteria

Priority 1 CIP Projects for FY 19 – Status Report

	CIP Project	Planned Milestones	Status after 1st Quarter	Status after 2nd Quarter	Status after 3rd Quarter	Status after 4th Quarter
1	Central Avenue Sanitary Sewer Relocation	Complete design by June 2019. This milestone is dependent on the City of Newark bridge design assessment and whether the force mains and trunk sewers would have to be relocated	Force mains and trunk sewers were potholed and located. Survey information provided to the City's design consultant.	The bridge supports will be designed to avoid the force mains and trunk sewer. The City will consider including the relocation of the 10" and 15" sewer mains as part of their bridge project.	The City's consultant has been asked to prepare a cost estimate for the design of the sewer relocation.	Awaiting the City's consultant to prepare a cost estimate for the design of the sewer relocation.
2	Cherry St. PS	a) Complete predesign scope development by April 2019 b) Complete draft design-build RFP by August 2019	Consultant proposals for predesign phase received. Consultant selection in October 2018.	Carollo was selected for predesign phase. However, a new development is proposed for a tributary area. Carollo will update the Capacity Study to assess the impact of the additional flows.	Task Order with Carollo has been executed for an update of the capacity needs assessment based on future developments in the area.	The capacity needs assessment determined that the Pump Station would not have sufficient hydraulic capacity under future flow conditions, and recommended that the Pump Station be upsized.
3	Digester No. 2 Insp and Rehab	Complete condition assessment and predesign by June 2019	Preliminary scope was reviewed by Staff.	RFP for condition assessment was issued and two proposals were received from RFP for the rehabilitation was issued and due in Jan 2019	Task Order with JDH Corrosion has been executed for the condition assessment. Task Order with Carollo has been executed for the design of the rehabilitation.	Condition assessment of Thickeners 1 and 2 was completed. Awaiting the completion of cleaning of Primary Digester No. 2 to perform condition assessment of the digester.

4	Digester No. 3 Insp and Rehab	a) Substantial completion by May 2019 b) Project acceptance by the Board by July 2019	Design of the mixing lines replacement was completed and RFQ was issued.	Demolition work for the mixing lines replacement has begun. Shop drawings for the new materials was reviewed.	Installation of mixing lines and coatings has been completed. Water leakage test and functional testing of equipment has begun.	Project was substantially completed on May 7 th . Contractor has 60 days to complete punch list items. Negotiating change orders with the contractor prior to project acceptance.
5	Digester 7	a) Submit SRF Application by December 31, 2018 b) Complete design by June 2019	Value Engineering analysis was completed and a number of project scope elements were modified.	SRF application was submitted on Dec 26, 2018. Design amendment negotiations with consultant for incorporating the scope changes.	90 percent design submittal has been received, and submittal review has begun.	Project design has been completed and the project was advertised for bid on June 25 th .
6	Force Main corrosion Repairs – Phase 2	a) Substantial completion by August 2018. b) Project acceptance by the Board by October 2018.	Project was substantially completed on August 17, 2018. The Board accepted the project on October 8, 2018.	The Board accepted the project on October 8, 2018.	Completed.	Completed.
7	Force Main corrosion Repairs – Phase 3	Complete design by April 2019.	Design contract negotiations have begun.	Design task order executed. 90% design submitted in December 2018.	Design has been completed.	Completed.
8	Headworks 3rd Bar Screen	a) Complete design by February 2019 b) Advertise for bid by March 2019	Project scope was modified to replace the two existing	Amendment executed in October 2018 to include replacement of the	Review of the 90 percent design submittal has been completed.	Project design has been completed and the project was advertised for bid on June 25 th .

			mechanical screens.	two existing mechanical screens. 90% design submitted in December 2018.	Design will include a trash compactor for handling of screenings and on-site storage.	
9	Secondary Treatment Capacity Improvements	Complete process evaluation by December 2018.	On-site sampling and stress testing of the secondary clarifiers completed. Comprehend Phase Workshop was conducted.	Explore Phase Workshop was conducted in October 2018 which concluded the process evaluation. Executed amendment for Converge Phase.	Converge Phase was conducted in February 2019. Board presentation will be conducted in the fourth quarter.	Board presentation was conducted on May 8 th .
10	Standby Power Generation System Upgrade	a) Submit SRF Application by December 31, 2018 b) Receive draft equipment preselection RFQ package by February 2019. c) 50% design by April 2019 d) 90% design by September 2019 e) Complete design by October 2019	MBR electrical load evaluations were completed.	SRF application was submitted on Dec 26, 2018. Design resumed with two 3.5 MW engine generators. Review of draft equipment preselection RFQ package with consultant and attorney.	Work on the equipment preselection RFQ package continued. 50 percent design submittal was received in March 2019.	Testing of the electrical distribution system to supplement backup power is scheduled in July.
11	WAS Thickeners Improvements	Complete predesign by June 2019.	RFP was issued and Carollo Engineers was selected for the project predesign phase services.	Executed predesign task order in November 2018. Conducted predesign phase kickoff	Alternative selection workshop was conducted in January 2019.	Predesign will be completed after the Rotary drum thickener equipment is piloted in July 2019.

				meeting with consultant.		
12	Wet Weather Flow Management	Identify project scope and budget by April 2019. This milestone is dependent on the completion of the Secondary Treatment Capacity Improvements Process Evaluation and the Plant Master Plan.	The Secondary Treatment Capacity Improvements Process Evaluation will consider processes that include wet weather management/discharge.	The Secondary Treatment Capacity Improvements Process Evaluation will consider processes that include wet weather management/discharge.	The Secondary Treatment Capacity Improvements Process Evaluation will consider processes that include wet weather management/discharge.	The Secondary Treatment Capacity Improvements Process Evaluation will consider processes that include wet weather management/discharge.

SUMMARY OF CIP PROJECTS FOR FY19

Type of Project	Number of Projects	Names of Projects
Administrative Facilities	One	1. Plant Paving
Collection System	Two	2. Cast Iron/Pipe Lining, Phase VII 3. Central Avenue Sanitary Sewer Relocation
Transport System	Nine	1. Cathodic Protection Improvements – Transport 2. Cherry St. PS 3. Equalization Storage at Irvington 4. Equalization Storage at Newark 5. Force Main Corrosion Repairs – Phase 2 6. Force Main Corrosion Repairs – Phase 3 7. Newark and Irvington PS Chemical System Improvements 8. Newark Plant Site Security 9. Wet Weather Flow Management
Treatment System	Nineteen	1. Aeration Blower 11 (High Speed) 2. Alvarado Influent PS Improvements 3. Centrifuge Conveyance 4. Cogen Building Ventilation 5. Cogen Natural Gas and Power Meters 6. Control Box No. 1 Improvements 7. Degritter Building 2W Pipeline 8. Digester No. 2 Inspection and Rehab 9. Digester No. 3 Inspection and Rehab 10. Digester No. 7 11. Emergency Outfall Outlet Improvements

Treatment System (continued)		12. Headworks 3rd Bar Screen 13. Odor Scrubber System Improvements 14. Plant Grating Replacement 15. RAS Control Interim Improvements 16. Secondary Treatment Cap. Improv - Design 17. Standby Power Generation System Upgrade 18. Thickener Mechanism 19. WAS Thickeners
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Total: 31

PRIORITY 1 CIP PROJECT CRITERIA

Priority 1 Projects:

1. Project to repair or prevent an imminent critical infrastructure failure that could result in a threat to the public, or result in permit non-compliance.
2. A project designed to address public health and safety or employee health and safety.
3. Project to provide additional capacity in order to allow connection to the District system or to prevent a potential wet weather overflow from occurring.
4. Projects that have a deadline tied to receiving a loan or grant funding.
5. Projects where we have made a timeline commitment to a customer or other outside stakeholder.
6. A project in which the District may suffer financial losses or claims should the project be delayed.
7. A project which is part of a sequence of projects whose delay could result in delays to other projects at USD or other agencies.
8. A project in which an internal commitment has been made to provide a facility that significantly impacts another group from efficiently and effectively carrying out their core work. (Not a “nice to have” type project)

These criteria can apply to a study, design, or construction project.

PRIORITY 2 & 3 CIP PROJECT CRITERIA

Priority 2 Projects

1. These are planned projects related to the replacement of electrical and mechanical equipment identified by the Plant Master Plan – this equipment is not in imminent danger of failure but needs to be replaced at a future date.
2. These are planned pipeline rehab/replacement projects that are identified either by the Master Plan or by the Maintenance staff and need to be completed to improve the condition of existing sewers to safeguard against potential maintenance problems – these pipelines are not in imminent danger of failure.
3. These projects do not have any immediate negative impacts on either other agencies or other projects.
4. Examples: Blacow Road Sewer Replacement, Cast Iron Pipe Replacement, Thickener Mechanism 3&4 Replacement, Rehab of Clarifiers 5&6.

Priority 3 Projects

1. These are capacity projects identified by the master plans that will address future capacity needs of the District.
2. These projects are place holders and need to be defined at a future date
3. The District will not suffer any financial loss or claim, if these projects are delayed.
4. Examples: Cedar Relief Sewer, Hetch Hetchy Relief Sewer, Digester No. 7, Secondary Clarifiers 7 & 8.

**Directors**

Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers

Paul R. Eldredge
*General Manager/
District Engineer*

Karen W. Murphy
Attorney

**SEPTEMBER 23, 2019
BOARD OF DIRECTORS MEETING
AGENDA ITEM # 14**

TITLE: Fourth Quarterly Report on the Capital Improvement Program for FY19
(This is an Information Item)

SUBMITTED: Paul R. Eldredge, General Manager/District Engineer
Sami E. Ghossain, Technical Services Work Group Manager

Recommendation

Information only.

Previous Board Action

None.

Background

In June 2018, the Board approved the Capital Improvement Program (CIP) budget for FY19 in the amount of \$9.29 million for the design and construction of 31 CIP projects. The fourth quarter expenditures for FY19 are shown on the attached budget projection graphs. These graphs depict actual expenditures versus approved budget for the Capacity Fund 900, the Renewal and Replacement Fund 800 as well as for both funds, combined.

The total CIP expenditures up to June 30, 2019, were under the projections for the fourth quarter by approximately \$2,540,000. The main projects that had significant variances from the projected expenditures are the Digester No. 3, Standby Power Upgrade, Forcemain Corrosion, and the Wet weather Flow Management projects.

These primary variances are tabulated as follows:

Project	Approximate Variance at the end of 4th Quarter (x \$1000)	Comments
Wet Weather Flow Management	-2,115	Pending the opportunity to locate a viable property.
Forcemain Corrosion Repairs - Phase 2	-750	Progress payments expected in in the first quarter of FY19 were made in the fourth quarter of FY18.
Digester No. 3 Insp & Rehab	+750	Construction time was extended and cost was increased due to the replacement of the sludge mixing pipelines.
Standby Power Generation System Upgrade	-425	Design is taking longer than expected due to the re-evaluation of future electric loads, the complexities associated with coordinating the design with engine manufacturers and PG&E, and the high construction estimate.
Total Variance for the 4th Qtr.	-2,540	

In addition to the four (4) projects listed above, the following high-priority projects were either in design or in construction during FY19:

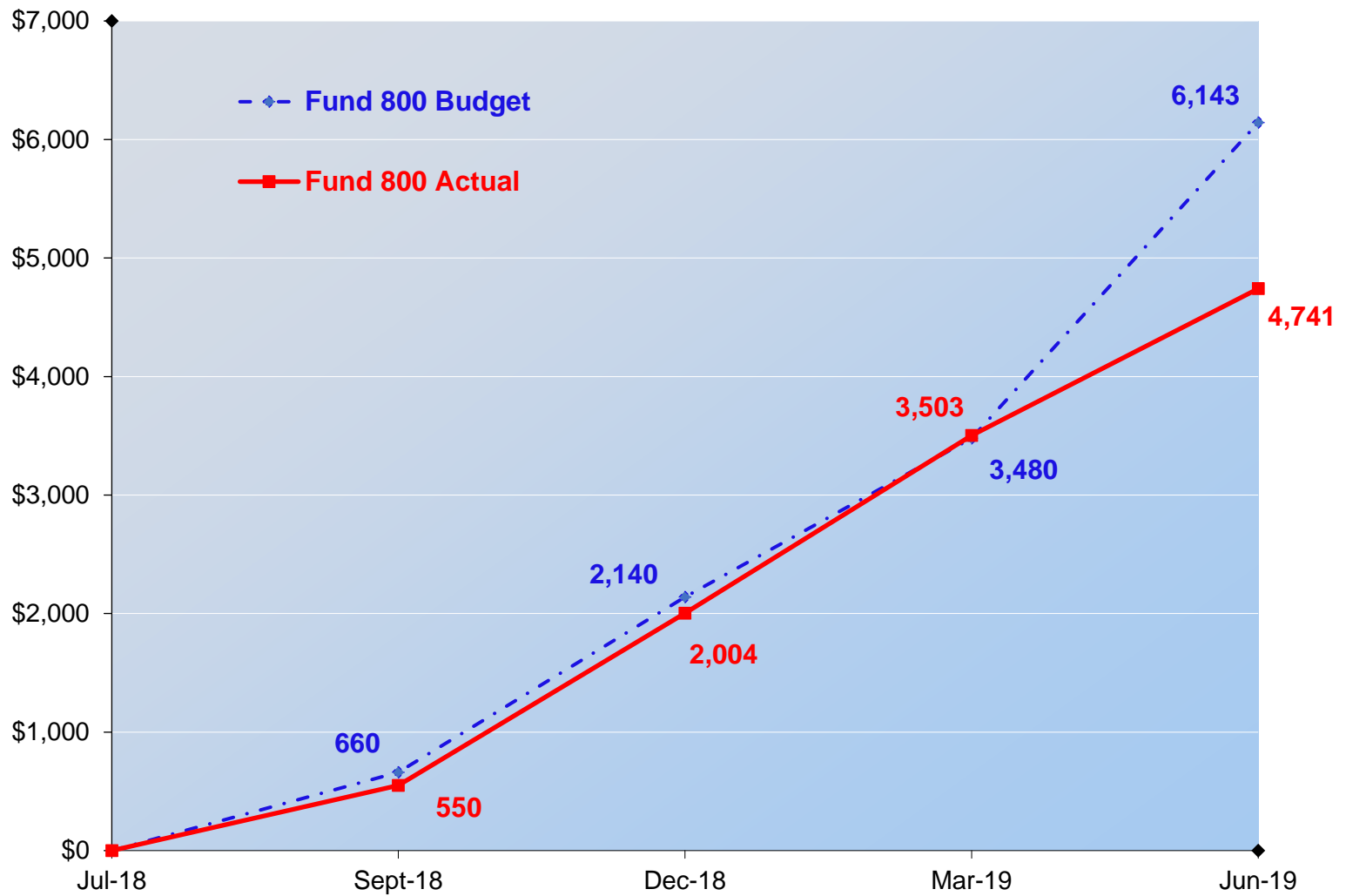
1. Alvarado Influent PS Improvements
2. Central Avenue Sanitary Sewer Relocation
3. Cherry St. PS Improvements
4. Digester No. 2 Inspection and Rehabilitation
5. Digester No. 7
6. Force Main Corrosion Repairs – Phase 3
7. Headworks 3rd Bar Screen
8. Secondary Treatment Capacity Improvements
9. WAS Thickeners Improvements

Also, there are eighteen (18) other smaller projects that were either in design or in construction during FY19.

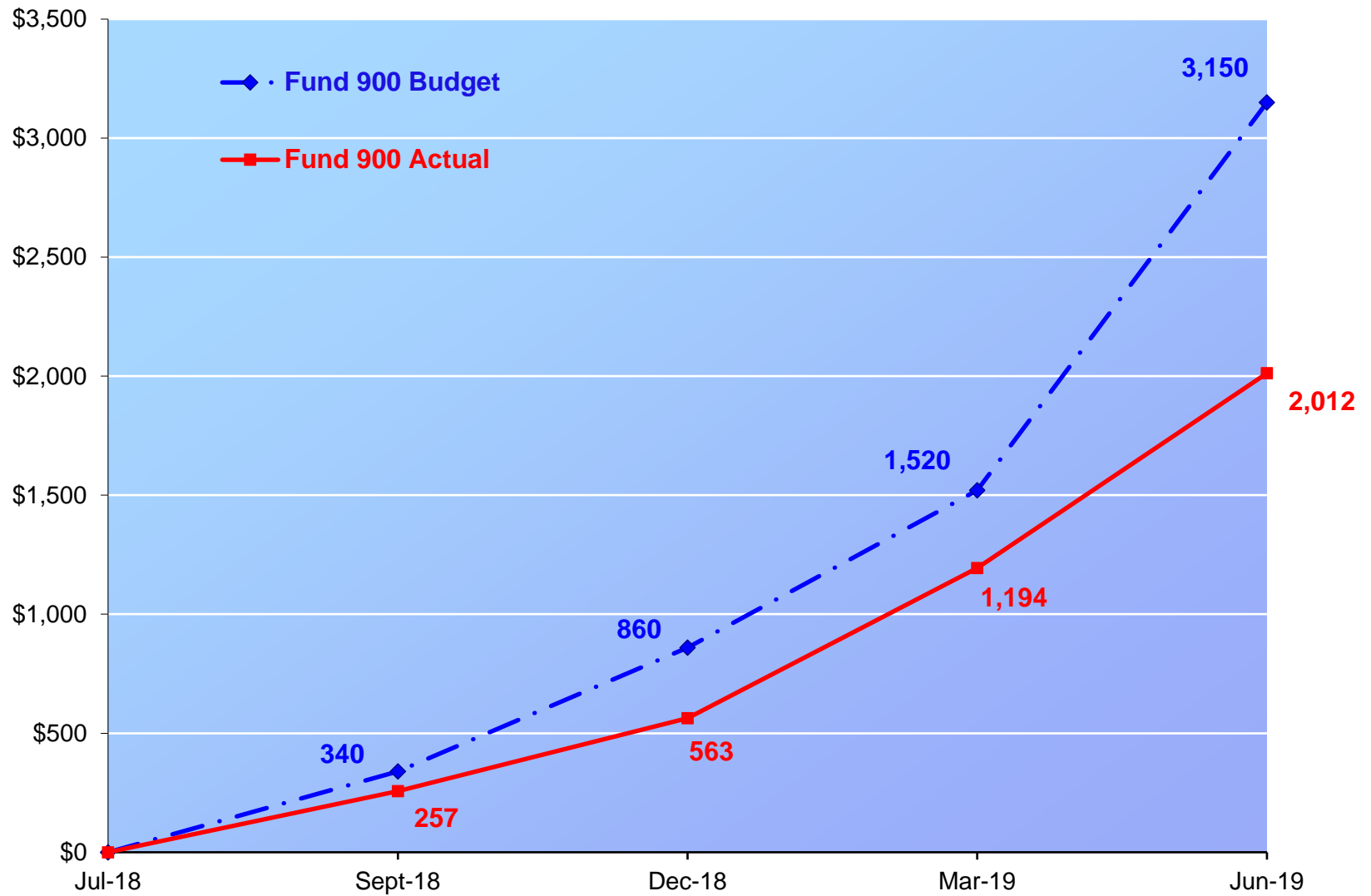
PRE/SEG:mb

Attachment: Budget Graphs

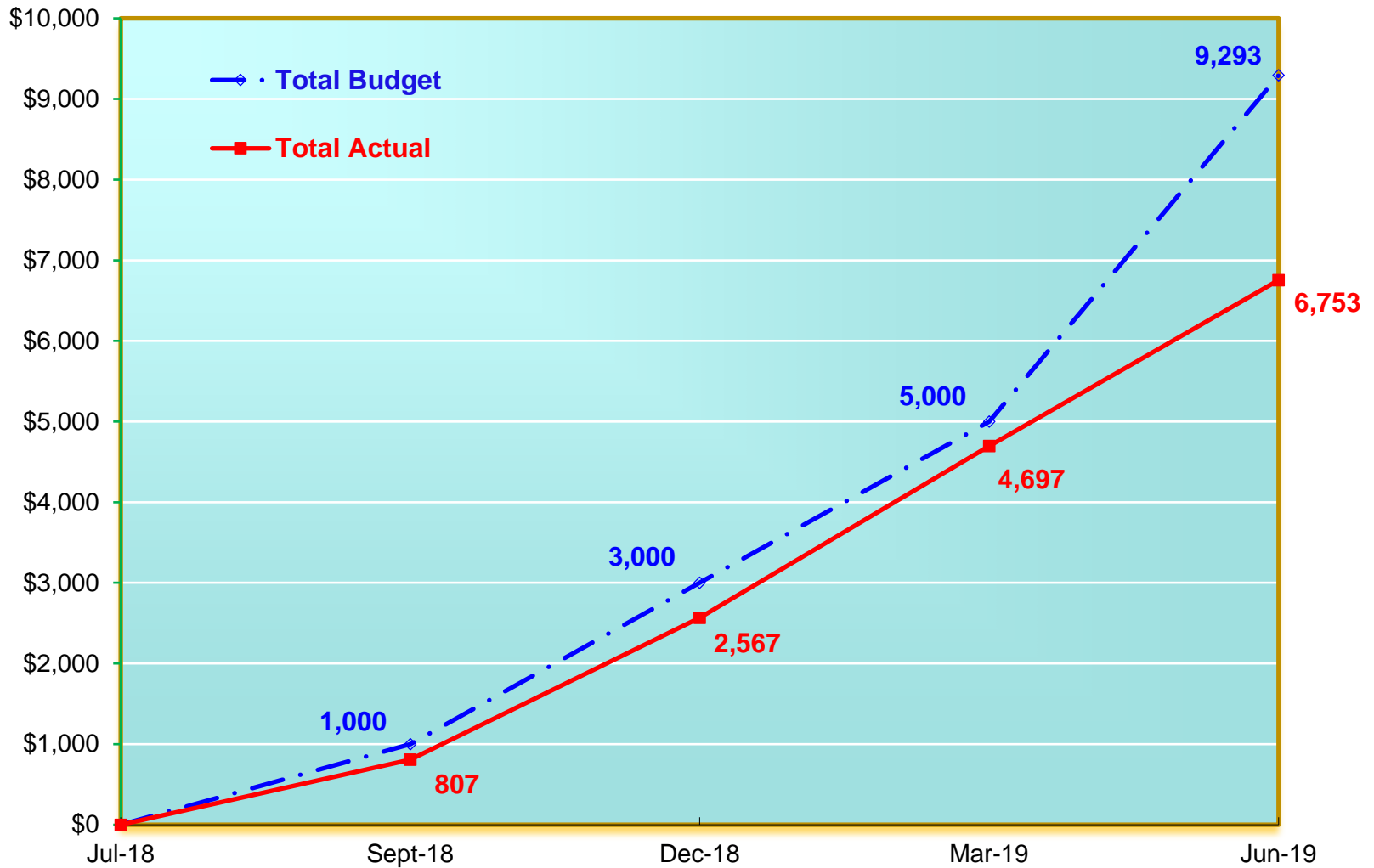
Structural R&R



Capacity



Total Cumulative





Summary of the EBDA Commission Meeting

Thursday, August 15, 2019, at 9:30 a.m.

Prepared by: P. Eldredge

- Commissioners Mendall, Ballew, Lathi, Johnson, and Walters were present.
- Commissioner Lathi moved to approve the Commission Meeting Minutes of July 18, 2019, List of Disbursements for July 2019, and the Preliminary Treasurer's Report. The motion was seconded by Commissioner Johnson and carried 5-0 (Mendall, Ballew, Lathi, Johnson, Walters; ayes).
- The Commission unanimously approved the reports from the Managers Advisory, Ad Hoc, Financial Management, Regulatory Affairs, Operations & Maintenance, and Personnel committees. The following items were discussed:
- **General Managers Report** - The General Manager deferred her comments for the month of August 2019 to the Committee Reports.
- **Manager's Advisory Committee** met with the General Manager on August 8, 2019. The General Manager requested to combine the MAC and Ad Hoc reports.
- **Financial Management Committee** met with the General Manager on August 12, 2019, and reviewed the July List of Disbursements and Preliminary Treasurer's Report. The Finance Committee discussed signature authority as one element of a revised Purchasing Policy that will be adopted subsequent to JPA adoption. The Finance Committee recommended a \$50,000 signature authority threshold for the General Manager with no separate thresholds for types of work or contracts. The Finance Committee also supported a \$25,000 signature authority threshold for the Operations and Maintenance Manager. The O&M manager would still be acting under the direction of the General Manager in approving contracts. The Finance Committee also recommended that all contract or purchase order amendments and change orders to agreements over \$50,000, or that would bring the total above the \$50,000 threshold, be brought to the Commission for approval. The Finance Committee recommended that the signature authorities for all contracts be the same, irrespective of whether they are for supplies, professional services, construction, or other services. There was disagreement among the Commission on this point, and it will be further discussed as the draft Purchasing Policy is developed.

The Finance Committee also discussed a draft Pension Funding Policy and recommended that it be brought to the Commission for approval with no changes.

- **Ad Hoc Committee** met with the General Manager on August 14, 2019. The General Manager brought up the topic of a possible name change. The Committee recommended leaving the name as is for now, with the possibility of revisiting the question in the future. The GM also reported that provisions around JPA termination, along with subsequent ownership changes of two pump

stations, are a key topic being discussed. The GM reported that drafting of JPA language incorporating the term sheet is complete, and work is proceeding to generate a complete draft that should be released in the coming weeks. The JPA six-month extension and JPA renewal are set to go before each agency tentatively in November for review and approval. The Commission agreed that, ideally, the six-month extension should be included and resolved at the same time as the JPA renewal, and both should be approved before December 31, 2019. The Commission suggested drafting a template resolution with common language for each agency to review and approve with room for slight modifications and feedback from each agency.

- **Regulatory Affairs Committee** met with the General Manager on August 14, 2019. The GM reviewed the NPDES Status Report, referencing tables showing compliance for CBOD, TSS and bacteria limits. The General Manager gave a report on PFAS as background information for regulations that may be forthcoming. The GM also noted the WaterReuse document included in the agenda for general information purposes which highlights the research, funding, and regulatory needs for advancing water recycling in California. The USEPA is set to release a national water recycling strategy in September. ReNUWIt's One Water Center is conducting a workshop in December which the GM is engaged in planning, which will focus on goal development for water recycling in the Bay Area. In addition, a report BACWA is preparing under the nutrients watershed permit, will summarize water recycling plans that Bay Area agencies have and the resulting nutrient removal from the Bay.
- **Operations and Maintenance (O&M) Committee** – The Operations and Maintenance Committee met on August 13th, 2019 and discussed the status of EBDA facilities. The Operations and Maintenance Manager provided an update on the Cavitation Study at AEPS; a draft report is expected shortly. At the HEPS MCC Project, three new Ethernet radios were installed in July, which will provide HEPS with access to Hayward's SCADA system. PG&E rescheduled to the 27th and 28th of August, causing work delays and coordination challenges. At OLEPS, the discharge valve actuators are scheduled to be replaced the weeks of September 16th and 23rd. Generator starter and Diesel Pump operation issues were observed and then resolved at OLEPS. The O&M Manager gave updates on the SCADA system and cybersecurity; the new SCADA system is up and running. The O&M Manager reported that Underground Service Alerts are continuing to decrease. The Commission received an update on special projects including the Transport System Reliability Plan and the Facilities Electrical Evaluation. The GM reported the Disaster Recovery Plan will be brought before the Commission in the coming months. The GM explained the resolution amending the contract with GHD, increasing the budget for the Asset Management Plan. The GM also gave an update on the AQPI Project, noting that discussions are still taking place regarding long-term funding of the project beyond the current grant. The near-term X-band radar project is awaiting other East Bay agencies' approval.
- **Resolution Authorizing the General Manager to Issue Amendment No. 1 to the Professional Services Agreement with GHD, Inc. for Asset Management Advisory Services in the Amount of \$3,360 for a Total not to Exceed the Amount of \$48,370**

Commissioner Johnson moved to adopt the resolution authorizing the GM to issue Amendment No. 1 to GHD. The motion was seconded by Commissioner Mendall and carried unanimously, 5-0.

Ayes: Commissioners Mendall, Ballew, Lathi, Johnson, and Chair Walters

Noes: None
Absent: None
Abstain: None

- **Personnel Committee** - The Personnel Committee met with the General Manager on August 13, 2019. The General Manager went over revisions to the Personnel Policy including the addition of a catastrophic leave provision. The policy will now also state that employees should refrain from using personal email accounts for work-related business. Since the Authority uses personal cell phones for business, the Commission recommended adding a provision that states employees must comply with submitting data from personal cell phones used for business in the event of a public records request for such information. The Commission also recommends the catastrophic leave provision should state that General Manager approval is required. With said changes, the Committee recommends approval of the revisions to the Personnel Policy. The Committee also recommended approval of a resolution to issue a change order to Aerotek, Inc. for extending temporary administrative assistant services through November.

- **Resolution Approving Revisions to the Personnel Policy**

With the stipulation of noted changes, Commissioner Lathi moved to adopt the resolution approving revisions to the Personnel Policy. The motion was seconded by Commissioner Ballew and carried unanimously, 5-0.

Ayes: Commissioners Mendall, Ballew, Lathi, Johnson, and Chair Walters
Noes: None
Absent: None
Abstain: None

- **Resolution Authorizing the General Manager to Issue a Change Order to Aerotek, Inc. for Temporary Administrative Assistant Services in the Amount of \$30,000 for a Total Not to Exceed Amount of \$47,600**

Commissioner Mendall moved to approve the resolution authorizing the General Manager to issue a change order to Aerotek, Inc. in the amount of \$30,000. The motion was seconded by Commissioner Johnson and carried unanimously, 5-0.

Ayes: Commissioners Mendall, Ballew, Lathi, Johnson, and Chair Walters
Noes: None
Absent: None
Abstain: None

Absent: None
Abstain: None

- **Items from the Commission and Staff**

The General Manager noted that staff has begun developing Rules of the Commission, noting specifically that in considering the Rules, the Commission will have an opportunity to discuss whether or not motions for approving Committee Reports will continue to be necessary. The General Counsel noted the Claims Bar Date of October 21st for submitting any claims in the U.S. Bankruptcy Court against PG&E as part of its Bankruptcy proceeding.

**UNION SANITARY DISTRICT
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08/31/2019-09/13/2019**

Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172245	9/5/2019	111	101119	WASTEWATER SOLIDS MGMT INC	DIGESTER #2 CLEANING	\$112,690.00	\$112,690.00
172201	9/5/2019	143	179670	CAROLLO ENGINEERS	NEWARK EQUALIZATION STORAGE FACILITIES	\$42,574.74	\$56,237.48
	9/5/2019	143	179697		CHERRY ST. PS	\$1,130.00	
	9/5/2019	143	179668		ALVARADO INFLUENT PS PUMPS AND VFDS	\$11,489.24	
	9/5/2019	150	179555		OLEPS BYPASS CAPACITY STUDY	\$1,043.50	
172315	9/12/2019	171	4056871	WESTERN ENERGY SYSTEMS	FLATT TAPPET RUBBER RAILS	\$6,928.33	\$40,063.46
	9/12/2019	171	4056872		PARTS TO PUT COGEN 2 BACK TOGETHER	\$33,135.13	
172225	9/5/2019	170	104756	MUNIQUEP, LLC	NPS PUMP REBUILD KIT FOR TWO PUMPS	\$27,728.76	\$36,671.37
	9/5/2019	170	104755		APS SMALL PUMP REBUILD KIT 2019	\$8,942.61	
172279	9/12/2019	170	20559	JENSEN INSTRUMENT COMPANY	NEW FLOW METERS FOR SEC CLARIFIER 1 AND 3	\$25,853.97	\$25,853.97
172292	9/12/2019	170	380420190903	PACIFIC GAS AND ELECTRIC	SERV TO 09/2/19 CHERRY ST PS	\$276.01	\$25,433.95
	9/12/2019	170	096020190903		SERV TO 09/02/19 CATHODIC PROJECT	\$54.70	
	9/12/2019	110	224720190829		SERV TO 08/22/19 CS TRAINING TRAILER	\$28.19	
	9/12/2019	170	761520190827		SERV TO 08/26/19 NEWARK PS	\$25,075.05	

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172241	9/5/2019	110	956435	UNIVAR SOLUTIONS	4798.8 GALS SODIUM HYPOCHLORITE		
						\$3,466.53	\$20,601.03
	9/5/2019	110	956967		4599.8 GALS SODIUM HYPOCHLORITE		
						\$3,322.78	
	9/5/2019	110	956048		4699.2 GALS SODIUM HYPOCHLORITE		
						\$3,394.58	
	9/5/2019	110	956057		4801.9 GALS SODIUM HYPOCHLORITE		
						\$3,468.77	
	9/5/2019	110	956148		4817.6 GALS SODIUM HYPOCHLORITE		
						\$3,480.11	
	9/5/2019	110	956970		4801.2 GALS SODIUM HYPOCHLORITE		
						\$3,468.26	
172222	9/5/2019	122	516757	MANSFIELD OIL CO OF GAINSVILLE	5952 GALS CARB-DYED DIESEL		
						\$18,968.21	\$18,968.21
172317	9/12/2019		166668	WOODARD & CURRAN INC	PROF CONSULTING SERVICES - NPDES PERMIT FOR HAYW		
						\$3,240.75	\$17,231.25
	9/12/2019	143	166556		OLD ALAMEDA CREEK ROWB		
						\$13,990.50	
172226	9/5/2019	130	20	MUSGRAVES CONSULTING SERVICES	SPECIALTY FINANCE SERVICES CONSULTANT		
						\$16,557.90	\$16,557.90
172205	9/5/2019		3568218C	DELTA DENTAL SERVICE	AUGUST 2019 DENTAL		
						\$13,625.80	\$15,515.70
	9/5/2019		3568218A		AUGUST 2019 DENTAL		
						\$1,889.90	
172267	9/12/2019	143	12644	DW NICHOLSON CORP	LABOR & MATERIAL: CONNECT TEMP GENERATOR TO SUBS		
						\$11,508.00	\$11,508.00
172308	9/12/2019	110	957781	UNIVAR SOLUTIONS	4800 GALS SODIUM HYPOCHLORITE		
						\$3,467.40	\$10,472.05
	9/12/2019	110	958060		4897.8 GALS SODIUM HYPOCHLORITE		
						\$3,538.04	
	9/12/2019	110	957934		4798.9 GALS SODIUM HYPOCHLORITE		
						\$3,466.61	
172249	9/5/2019	143	166313	WOODARD & CURRAN INC	NEWARK BASIN MASTER PLAN/PACP UPDATE		
						\$9,052.00	\$9,052.00
172284	9/12/2019		37432220190901	LINCOLN NATIONAL LIFE INS COMP	LIFE & DISABILITY INSURANCE - SEPT 2019		
						\$8,661.54	\$8,661.54

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172208	9/5/2019	113	1182219	ENTHALPY ANALYTICAL LLC	24 LAB SAMPLE ANALYSIS	\$1,485.00	\$7,475.00
	9/5/2019	113	1182319		40 LAB SAMPLE ANALYSIS	\$400.00	
	9/5/2019	113	1182194		29 LAB SAMPLE ANALYSIS	\$1,570.00	
	9/5/2019	113	1182317		24 LAB SAMPLE ANALYSIS	\$955.00	
	9/5/2019	113	1181535		22 LAB SAMPLE ANALYSIS	\$1,800.00	
	9/5/2019	113	1182152		21 LAB SAMPLE ANALYSIS	\$1,265.00	
172220	9/5/2019	110	9017643905	KEMIRA WATER SOLUTIONS INC	46,640 LBS FERROUS CHLORIDE	\$7,351.61	\$7,351.61
172283	9/12/2019	110	9017644498	KEMIRA WATER SOLUTIONS INC	45,580 LBS FERROUS CHLORIDE	\$7,178.50	\$7,178.50
172191	9/5/2019	121	68732	3T EQUIPMENT COMPANY INC	9 DEBRIS BASKET 6", 8", 10"	\$2,369.21	\$6,366.36
	9/5/2019	121	68731		1 ROUND BODY HEAVY DUTY ROOT CUTTER KIT	\$1,658.57	
	9/5/2019	134	68738		4 PIPEPATCH KITS	\$2,338.58	
172271	9/12/2019	170	243280	FRANK A OLSEN COMPANY	HEAT MIX 4 RECIRC ISOLATION PEF VALVES	\$5,924.02	\$5,924.02
172305	9/12/2019	110	9191324	SWRCB - STATE WATER RESOURCES	ELAP ANNUAL FEE	\$5,331.00	\$5,331.00
172258	9/12/2019		1909062	ATKINS NORTH AMERICA INC	SURVEY 123 IPACS INTEGRATION STUDY	\$5,250.00	\$5,250.00
172251	9/12/2019	170	4017420220190906	ALAMEDA COUNTY WATER DISTRICT	SERV TO: 09/06/19 - FREMONT BLVD	\$54.43	\$5,089.36
	9/12/2019	170	4017275220190906		SERV TO: 09/04/19 - FREMONT BLVD	\$157.66	
	9/12/2019	170	4017274120190906		SERV TO: 09/04/19 - FREMONT BLVD	\$4,877.27	
172301	9/12/2019	173	3060	SDI PRESENCE LLC	IT MASTER PLAN PROJECT FOR FY19	\$5,075.00	\$5,075.00
172289	9/12/2019		104772	MUNIQUEIP, LLC	FMC	\$5,021.37	\$5,021.37

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172252	9/12/2019	170	5213784	ALL INDUSTRIAL ELECTRIC SUPPLY	4 EV CAR CHARGERS		
	9/12/2019	170	5214062		1 BUILDING 70 OUTLET FOR TEMP AC UNIT	\$4,403.91	\$4,798.38
						\$394.47	
172213	9/5/2019	120	9246647706	GRAINGER INC	1 EYEWASH - FAUCET MOUNT	\$84.20	\$4,498.56
	9/5/2019	170	9247166870		2 DC POWER SUPPLIES	\$802.82	
	9/5/2019	170	9245346433		1 MINIATURE LIMIT SWITCH	\$142.70	
	9/5/2019	170	9247830988		1 MOD DRAWER	\$1,768.58	
	9/5/2019		9249576423		ASTD PARTS & MATERIALS	\$1,632.76	
	9/5/2019		9250893857		30 PRS SAFETY GLASSES	\$67.50	
172294	9/12/2019	130	71912159	PFM ASSET MANAGEMENT LLC	INVESTMENT MANAGEMENT / ADVISORY SERVICES	\$4,285.51	\$4,285.51
172272	9/12/2019		201681903	GATEWAY PRODUCTS GROUP INC	12 EA COGEN SPARK PLUGS	\$4,071.12	\$4,071.12
172300	9/12/2019	110	19082029	S&S TRUCKING	GRIT HAULING 08/06/2019	\$860.15	\$4,014.09
	9/12/2019	110	19081948		GRIT HAULING 08/08 & 08/12/2019	\$1,663.10	
	9/12/2019	110	19082028		GRIT BIN RENTAL 08/01/2019	\$750.00	
	9/12/2019	110	19082304		GRIT HAULING 08/15/2019	\$740.84	
172257	9/12/2019		13505320	AT&T	SERV: 7/20/19 - 8/19/19	\$3,592.63	\$3,833.22
	9/12/2019		13505342		SERV: 7/20/19 - 8/19/19	\$219.29	
	9/12/2019		13505318		SERV: 7/20/19 - 8/19/19	\$21.30	
172277	9/12/2019	144	10	STEPHANIE HUGHES, CHE P.E.	P2 PROGRAM SUPPORT	\$3,753.75	\$3,753.75
172310	9/12/2019	170	973421	VALLEY OIL COMPANY	8 DIESEL FUEL TANK TESTING	\$3,600.00	\$3,600.00

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172262	9/12/2019	143	11350614	BROWN & CALDWELL CONSULTANTS	STANDBY POWER SYSTEM UPGRADE	\$3,545.43	\$3,545.43
172311	9/12/2019		9836505668	VERIZON WIRELESS	WIRELESS SERV 07/21/2019 - 08/20/2019	\$2,714.64	\$3,439.44
	9/12/2019		9837105408		WIRELESS SERV 08/02/19-09/01/19 & (6) IPADS	\$724.80	
172302	9/12/2019		9692	SIMPLY INDIAN	REFUND # 22289	\$800.00	\$3,300.00
	9/12/2019		9692.1		REFUND # 22290	\$2,500.00	
172243	9/5/2019		807345510	VISION SERVICE PLAN - CA	SEP 2019 VISION STMT	\$3,108.38	\$3,152.16
	9/5/2019		807345516		SEP 2019 VISION STMT	\$43.78	
172270	9/12/2019	144	923677269	FLSMIDTH INC-SALT LAKE CITY OP	DIAPHRAGM, HYAPALON	\$3,078.98	\$3,078.98
172235	9/5/2019		9976	ROOTER HERO	REFUND # 22306	\$2,500.00	\$3,000.00
	9/5/2019		10331		REFUND # 22303	\$500.00	
172195	9/5/2019		13483006	AT&T	SERV: 7/13/19 - 8/12/19	\$65.87	\$2,967.73
	9/5/2019		13443644		SERV: 7/10/19 - 8/09/19	\$2,023.88	
	9/5/2019		13483007		SERV: 7/13/19 - 8/12/19	\$87.36	
	9/5/2019		13483003		SERV: 7/13/19 - 8/12/19	\$747.80	
	9/5/2019		13483005		SERV: 7/13/19 - 8/12/19	\$42.82	
172232	9/5/2019	120	916003940780	REPUBLIC SERVICES #916	RECYCLE & ROLL OFF - SEP 2019	\$2,690.21	\$2,690.21
172312	9/12/2019		9692	KULWINDER SINGH VIRDEE	REFUND # 22290	\$2,500.00	\$2,500.00
172227	9/5/2019	170	113098	NEW IMAGE LANDSCAPING CO	LANDSCAPE MAINTENANCE - FMC - AUG 2019	\$2,305.00	\$2,305.00
172290	9/12/2019	122	20190827	NAPA AUTO PARTS	MONTHLY AUTO PARTS STMT - AUG 2019	\$2,192.68	\$2,192.68

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172273	9/12/2019		9254754659	GRAINGER INC	ASTD PARTS & MATERIALS		
	9/12/2019	110	9251743556		6 EA EYEWASH HEAD, HAWS	\$1,999.99	\$2,169.27
	9/12/2019		9253116660		14 PACKS SPORTS DRINK MIX	\$71.31	
	9/12/2019	111	9257156290		1 LITHIUM BATTERY	\$96.71	
						\$1.26	
172248	9/5/2019	171	4053937	WESTERN ENERGY SYSTEMS	ORINGS FOR LINERS ENGINE 2	\$2,067.34	\$2,067.34
172269	9/12/2019	173	Y519252	ENVIROSIM ASSOCIATES LTD	BIOWIN ANNUAL LICENSE RENEWAL	\$2,000.00	\$2,000.00
172223	9/5/2019	170	14206023	MCMASTER SUPPLY INC	ASTD PARTS & MATERIALS	\$502.91	\$1,968.39
	9/5/2019	170	14455598		1 EA SHIELDED ETHERNET CABLE	\$917.11	
	9/5/2019	170	14502121		2 LONG-LIFE LARGE-CELL BATTERIES	\$114.35	
	9/5/2019		14724802		ASTD PARTS & MATERIALS	\$434.02	
172224	9/5/2019		24065782	MOTION INDUSTRIES INC	ASTD PARTS & MATERIALS	\$1,864.11	\$1,864.11
172234	9/5/2019	121	20190903	JOSE RODRIGUES JR	EXP REIMB: HANSEN/INFOR CONFERENCE REG & AIRFARE	\$1,672.96	\$1,672.96
172264	9/12/2019	170	21689078	CARBOLINE COMPANY	PAINT & RELATED PAINT SUPPLIES	\$803.77	\$1,643.74
	9/12/2019	170	21689521		PAINT & RELATED PAINT SUPPLIES	\$839.97	

**UNION SANITARY DISTRICT
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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172287	9/12/2019	122	14756360	MCMASTER SUPPLY INC	ASTD PARTS & MATERIALS		\$1,592.13
	9/12/2019	170	15363593		3 PIPE FLANGES	\$112.87	
	9/12/2019	120	15151766		12 EA EASY GRIP PLASTIC CONTAINERS	\$339.74	
	9/12/2019	122	14837250		ASTD PARTS & MATERIALS	\$749.28	
	9/12/2019	122	14864649		15 END POST CAPS	\$53.22	
	9/12/2019	170	15394170		2 LONG-LIFE BATTERIES	\$36.67	
	9/12/2019		15038293		ASTD PARTS & MATERIALS	\$114.35	
						\$186.00	
172274	9/12/2019	134	3N8657	HARRINGTON INDUSTRIAL PLASTICS	ASTD PVC PARTS & MATERIALS		\$1,515.89
	9/12/2019	170	3N8588		ASTD PVC PARTS & MATERIALS	\$65.98	
	9/12/2019		3N8587		ASTD PARTS & MATERIALS	\$41.07	
	9/12/2019		3N8586		ASTD PVC PARTS & MATERIALS	\$283.19	
						\$1,125.65	
172266	9/12/2019		84287	COMPUTER TRAINING SOURCE INC	BEGINNER EXCEL TRAINING	\$1,495.00	\$1,495.00
172253	9/12/2019		20190810	AMAZON.COM LLC	08/19 - ASTD OFFICE SUPPLIES	\$1,489.96	\$1,489.96
172209	9/5/2019	113	3200010185	EUROFINS TESTAMERICA	PFAS LAB TESTING	\$1,435.00	\$1,435.00
172212	9/5/2019	122	1841088210	GOODYEAR COMM TIRE & SERV CTRS	3 TIRES	\$594.61	\$1,403.42
	9/5/2019	122	1841088262		4 TIRES	\$620.18	
	9/5/2019	122	1841088231		1 TIRE	\$188.63	
172281	9/12/2019	113	33017029	KELLY SERVICES INC	TEMP LABOR-THACH, P. WK ENDING 08/18/19	\$1,381.60	\$1,381.60
172233	9/5/2019	141	54063170	ROBERT HALF INTERNATIONAL INC	TEMP LABOR-RAMACCIOTTI, J. WK ENDING 08/09/19	\$1,324.30	\$1,324.30

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172200	9/5/2019	170	21680701	CARBOLINE COMPANY	PAINT & RELATED PAINT SUPPLIES		
						\$493.58	\$1,183.61
	9/5/2019	170	21686983		PAINT & RELATED PAINT SUPPLIES		
						\$690.03	
172240	9/5/2019	170	9295	SUPPORT PRODUCT SERVICES INC	COGEN EMISSIONS ANALYZER CALIBRATION		
						\$1,160.83	\$1,160.83
172215	9/5/2019	136	3127745924	HILTON NASHVILLE DOWNTOWN	PRE-PAY LODGING - J ROJO OPTIMUM CONF		
						\$1,157.88	\$1,157.88
172219	9/5/2019	113	32014662	KELLY SERVICES INC	TEMP LABOR-THACH, P. WK ENDING 08/11/19		
						\$1,105.28	\$1,105.28
172285	9/12/2019	130	190819	MACLEOD WATTS INC	OPEB ACTUARIAL VALUATION		
						\$1,100.00	\$1,100.00
172255	9/12/2019	170	684347	A-PRO PEST CONTROL INC	AUGUST PEST CONTROL		
						\$1,005.00	\$1,005.00
172193	9/5/2019	111	31303	ALLIED FLUID PRODUCTS CORP	4 RED HORIZON HOSE ASSEMBLIES		
						\$745.53	\$919.51
	9/5/2019		31286		1 PACKING RING SET		
						\$173.98	
172196	9/5/2019		219269405	AT&T	SERV: 7/11/19 - 8/10/19		
						\$882.85	\$882.85
172295	9/12/2019	141	20190905	MICHELLE POWELL	EXP REIMB: LODGING, PER DIEM, MILEAGE, SHUTTLE - CAS		
						\$876.01	\$876.01
172246	9/5/2019	121	43949	WECO INDUSTRIES LLC	CAMERA REPAIRS AND PARTS		
						\$842.47	\$842.47
172198	9/5/2019	130	13991671	BLAISDELL'S	SIT/STAND TALL USER KIT		
						\$74.63	\$837.92
	9/5/2019	130	13991670		1 SIT/STAND STATION		
						\$625.52	
	9/5/2019	120	14000890		ASTD OFFICE SUPPLIES		
						\$137.77	
172199	9/5/2019	143	2174402	CALIFORNIA SURVEYING DRAFTING	GPS EQUIPMENT RENTAL		
						\$382.38	\$786.61
	9/5/2019	143	2174072		GPS EQUIPMENT RENTAL		
						\$404.23	

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172254	9/12/2019		1102224794	AMERIPRIDE SERVICES INC	UNIFORM LAUNDERING SERVICE		
						\$390.36	\$704.21
	9/12/2019	122	1102224807		ASTD DUST MOPS, WET MOPS & TERRY TOWEL		
						\$47.58	
	9/12/2019		1102224787		UNIFORM LAUNDERING & RUGS		
						\$266.27	
172244	9/5/2019	113	8087260708	VWR INTERNATIONAL LLC	LAB SUPPLIES		
						\$75.75	\$702.49
	9/5/2019	134	8087290068		LAB SUPPLIES		
						\$102.73	
	9/5/2019	113	8087290069		LAB SUPPLIES		
						\$60.29	
	9/5/2019	134	8087283726		LAB SUPPLIES		
						\$230.48	
	9/5/2019	113	8087292749		LAB SUPPLIES		
						\$233.24	
172298	9/12/2019	170	138795	ROCHESTER MIDLAND CORPORATION	HOT WATER LOOP SERVICE		
						\$690.75	\$690.75
172194	9/5/2019		1102221118	AMERIPRIDE SERVICES INC	UNIFORM LAUNDERING SERVICE		
						\$433.89	\$685.48
	9/5/2019		1102221106		UNIFORM LAUNDERING & RUGS		
						\$251.59	
172204	9/5/2019	143	3271020	DAILY JOURNAL CORPORATION	AD: ALVARADO INFLUENT PS PUMPS AND VFDS		
						\$617.50	\$617.50
172268	9/12/2019	113	1182581	ENTHALPY ANALYTICAL LLC	11 LAB SAMPLE ANALYSIS		
						\$565.00	\$565.00
172206	9/5/2019		10339	E Z PLUMBING	REFUND # 22305		
						\$500.00	\$500.00
172207	9/5/2019		10329	EAST BAY ROOTER	REFUND # 22281		
						\$500.00	\$500.00
172230	9/5/2019		10358	ORTIZ PLUMBING DRAIN CLEANING	REFUND # 22291		
						\$500.00	\$500.00
172231	9/5/2019		9957.1	QUALITY FIRST REMODELING INC	REFUND # 22304		
						\$500.00	\$500.00
172239	9/5/2019		10317	STREAMLINE PLUMBING & DRAIN	REFUND # 22285		
						\$500.00	\$500.00
172250	9/5/2019		10367	YANNI ZENG	REFUND # 22292		
						\$500.00	\$500.00

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172280	9/12/2019		9753	ANISH JOYSON	REFUND # 22328	\$500.00	\$500.00
172288	9/12/2019		10160	MONARCH PLUMBING & ROOTER INC	REFUND # 22327	\$500.00	\$500.00
172296	9/12/2019		10404	PRO ROOTER	REFUND # 22318	\$500.00	\$500.00
172297	9/12/2019		9903	RAGHAVAN RAMADOSS	REFUND # 22317	\$500.00	\$500.00
172299	9/12/2019		10340	ROOTER HERO	REFUND # 22325	\$500.00	\$500.00
172306	9/12/2019		10344	TRENCHFREE INC	REFUND # 22319	\$500.00	\$500.00
172318	9/12/2019		10420	SUSAN ZHENG	REFUND # 22326	\$500.00	\$500.00
172307	9/12/2019	123	168463376005	UNITED RENTALS NORTHWEST INC	1 CHIPPER 1 DAY RENTAL 8/13/19-08/14/19	\$469.33	\$469.33
172265	9/12/2019	171	20190911	PETE CHAPARRO	TRAVEL PER DIEM - BACKFLOW PREVENTION TRAINING	\$458.50	\$458.50
172303	9/12/2019	134	86963	STARLINE SUPPLY COMPANY	8 CS COMPOSTABLE UTENSILS	\$418.10	\$418.10
172275	9/12/2019		603552270	HILLYARD/SAN FRANCISCO	ASTD JANITORIAL SUPPLIES	\$414.93	\$414.93
172197	9/5/2019	170	439333001	AUTO BODY TOOLMART	ASTD PARTS & MATERIALS	\$386.57	\$386.57
172316	9/12/2019	170	16579	WESTERN MACHINE & FAB INC	1 MACHINE 3" NPT THREADS	\$370.00	\$370.00
172229	9/5/2019	121	613658	NOZZTEQ INC	LUMBERJACK 200 SERIES 12" CUTTING CHAINS	\$365.75	\$365.75
172238	9/5/2019	170	257011002	STEVEN ENGINEERING INC	IPS COMM UPS	\$322.34	\$322.34
172228	9/5/2019	121	13089918	CITY OF NEWARK	ENCROACHMENT PERMIT & INSPECTION	\$300.00	\$300.00
172247	9/5/2019	150	20190827	SHARON WEST	EXP REIMB: LONGEVITY AWARD 30TH ANNIV - S WEST	\$300.00	\$300.00
172237	9/5/2019	170	85340220190822	SAN FRANCISCO WATER DEPT	SERVICE 07/23/2019 - 08/21/2019	\$271.62	\$271.62

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172260	9/12/2019	120	14042990	BLAISDELL'S	ASTD OFFICE SUPPLIES		
						\$72.48	\$269.11
	9/12/2019	144	14049250		ASTD OFFICE SUPPLIES		
						\$139.89	
	9/12/2019	130	14036440		ASTD OFFICE SUPPLIES		
						\$56.74	
172256	9/12/2019		20190827	ROLLIE ARBOLANTE	LONGEVITY AWARD - 25 YEARS OF SERVICE		
						\$250.00	\$250.00
172314	9/12/2019	173	6030261	WEST SAFETY SERVICES INC	E911 CLOUD SERVICE		
						\$250.00	\$250.00
172276	9/12/2019	170	768520190828	HOME DEPOT CREDIT SERVICES	MONTHLY HARDWARE STMT - AUG 2019		
						\$249.20	\$249.20
172263	9/12/2019	113	601852	CALTEST ANALYTICAL LABORATORY	5 LAB SAMPLE ANALYSIS		
						\$236.25	\$236.25
172242	9/5/2019	134	45441	VALLEY OIL COMPANY	ASTD GREASE		
						\$218.95	\$218.95
172293	9/12/2019	134	5309711	PACIFIC MECHANICAL SUPPLY	ASTD PIPE FITTINGS		
						\$197.59	\$197.59
172282	9/12/2019	170	62600000174074	KELLY-MOORE PAINT COMPANY	ASTD PAINTING SUPPLIES		
						\$79.85	\$170.12
	9/12/2019	170	62600000174075		ASTD PAINTING SUPPLIES		
						\$22.72	
	9/12/2019	170	62600000173289		ASTD PAINTING SUPPLIES		
						\$67.55	
172214	9/5/2019		603543022	HILLYARD/SAN FRANCISCO	ASTD JANITORIAL SUPPLIES		
						\$169.24	\$169.24
172286	9/12/2019		4688038	MALLORY SAFETY AND SUPPLY LLC	48 PR NITRILE G-TEK GLOVES		
						\$159.07	\$159.07
172210	9/5/2019	143	670942112	FEDERAL EXPRESS CORPORATION	SHIPPING SERVICE - CIP PRIMARY DIGESTER NO. 7		
						\$158.90	\$158.90
172313	9/12/2019	134	8087321919	VWR INTERNATIONAL LLC	LAB SUPPLIES		
						\$38.51	\$150.98
	9/12/2019	113	8087358099		LAB SUPPLIES		
						\$58.62	
	9/12/2019	113	8087394099		LAB SUPPLIES		
						\$53.85	
172304	9/12/2019	130	20190906	STATE TREASURER'S OFFICE-LAIF	LAIF CONFERENCE - BRENNER		
						\$150.00	\$150.00

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
172259	9/12/2019		5731	BAY AREA BARRICADE SERVICE INC	3 MARKING PAINT		
						\$148.00	\$148.00
172291	9/12/2019	170	206930	NAYLOR STEEL INC	ASTD METAL, STEEL, STAINLESS & ALUMINUM		
						\$93.31	\$129.97
	9/12/2019	122	206881		ASTD METAL, STEEL, STAINLESS & ALUMINUM		
						\$36.66	
172202	9/5/2019	121	54161033	CINTAS CORPORATION	SUMMER SAFETY JACKET - J. ARROYO		
						\$127.74	\$127.74
172309	9/12/2019	136	98XW53339	UPS - UNITED PARCEL SERVICE	SHIPPING CHARGES W/E 08/17/19		
						\$100.02	\$121.38
	9/12/2019	136	98XW53349		SHIPPING CHARGES W/E 08/24/19		
						\$21.36	
172218	9/5/2019	110	20190827	DANIEL JACKSON	EXP REIMB: LUNCH FOR LAB CONSULTANT		
						\$100.65	\$100.65
172278	9/12/2019	122	211164	JACK JAMES TOWING INC	TOW VEHICLE T1267 FROM FREMONT TO USD		
						\$85.00	\$85.00
172216	9/5/2019	121	5873575	HOSE & FITTINGS ETC	ASTD FITTINGS		
						\$79.85	\$79.85
172217	9/5/2019	170	546842	HULBERT LUMBER SUPPLY	ASTD LUMBER SUPPLIES		
						\$72.97	\$72.97
172221	9/5/2019	160	20190904	ANJALI LATHI	EXP REIMB: ASTD MEALS FOR JANUARY TO JULY 2019		
						\$71.95	\$71.95
172192	9/5/2019	170	4088644120190822	ALAMEDA COUNTY WATER DISTRICT	SERV TO: 08/22/19 - BOYCE ROAD		
						\$67.69	\$67.69
172211	9/5/2019	132	116531270	FREMONT URGENT CARE CENTER	1 DOT PHYSICAL		
						\$63.00	\$63.00
172236	9/5/2019	134	7806529200	RS HUGHES CO INC	1 PR KNEE BOOTS		
						\$59.97	\$59.97
172261	9/12/2019	132	20190910	DENISE BLANCO	REIMB LIVESCAN PRE-EMPLOYMENT		
						\$27.00	\$27.00

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Check No.	Date	Dept	Invoice No.	Vendor	Description	Invoice Amt	Check Amt
Invoices:				Checks:			
Credit Memos :			0				
\$0 - \$1,000 :			131	41,492.22	\$0 - \$1,000 :	63	24,125.72
\$1,000 - \$10,000 :			68	211,772.30	\$1,000 - \$10,000 :	52	174,537.73
\$10,000 - \$100,000 :			11	240,507.30	\$10,000 - \$100,000 :	12	295,114.37
Over \$100,000 :			1	112,690.00	Over \$100,000 :	1	112,690.00
Total:			211	606,467.82	Total:	128	606,467.82



DESK ITEM
ITEM 11
9/23/2019

Directors
Manny Fernandez
Tom Handley
Pat Kite
Anjali Lathi
Jennifer Toy

Officers
Paul R. Eldredge, P.E.
General Manager
District Engineer

Karen W. Murphy
Attorney

Date: August 28, 2019

Ms. Joan Mallofy
City Manager, City of Union City
34009 Alvarado-Niles Road
Union City, CA 94587

SUBJECT: SUBMISSION OF ANNUAL REPORT FOR UNION SANITARY DISTRICT FOR FISCAL YEAR 2019

Dear Ms. Mallofy,

Pursuant to Union City Use Permit (UP-4-95), Union Sanitary District hereby submits its Annual Report for Fiscal Year 2019.

Introduction

The Union City Planning Commission approved Use Permit No. UP-4-95 on July 20, 1995, that which allowed for the expansion of the Union Sanitary District (USD) Alvarado Wastewater Treatment Plant from a capacity of 35 million gallons per day (MGD) to 38 MGD. The Use Permit requires the District to submit an annual report to the City Manager's office documenting the current wastewater flow received at the Alvarado Treatment Plant, a projection of flows for the next year, the current discharge limits imposed by the Regional Water Quality Control Board (RWQCB), and a status report on progress made toward development of any new facilities outside of Union City limits (Condition 9).

A second condition (Condition 6), requiring an annual operations audit by an independent expert, was eliminated by mutual agreement of USD's General Manager, Richard Currie, and Union City's City Manager, Larry Cheeves, in January 2005 following more than 10 years of perfect NPDES permit compliance.

Background

Union Sanitary District, founded in 1918, collects and treats wastewater from the communities of Union City, Newark, and Fremont, California. The District owns

and operates a wastewater treatment plant located in Union City. Treated effluent is discharged through the Easy Bay Dischargers Authority (EBDA) outfall into the San Francisco Bay. A portion of the effluent is diverted to Hayward Marsh from the EBDA force main as a beneficial use of reclaimed wastewater.

The Alvarado Wastewater Treatment Facility was completed in 1981 and was originally rated for a design flow of 19.7 MGD. A Plant Expansion Project increased the treatment capacity in 1985 and further modifications were made in 1993. The firm's reliable treatment capacity of 33 MGD was confirmed in 1997. Construction to renew and replace aging equipment is a continual and ongoing process. In 2019, a study of alternatives was completed to determine the upgrades necessary to meet more stringent requirements for nutrient expected in 2024 under the third nutrient watershed permit.

Current Wastewater Flow

The following is a summary of the average dry weather flow (ADWF) and annual average daily flow (AADF) for recent fiscal years. The Alvarado Treatment Facility is permitted to treat an ADWF flow of 33 MGD under the current National Pollution Discharge Elimination System (NPDES) permit. The ADWF is defined as the average flow during the summer months of May through September. The AADF is defined as the annual average daily flow throughout the fiscal year including both wet and dry seasons.

Fiscal Year	ADWF Permitted by NPDES, MGD	Actual ADWF, MGD	Actual AADF, MGD
2015	33	22.6	22.9
2016	33	21.9	22.8
2017	33	22.7	24.4
2018	33	23.3	23.3
2019	33	23.0	23.7

During FY19, an average effluent flow of 3.0 MGD was reused at the Hayward Shoreline Marsh.

Projected Wastewater Flows

The annual average daily flow (AADF) increased slightly in FY19. However, the the annual dry weather flow (ADWF) decreased slightly from the previous year.

We expect the trend in wastewater flow to continue in FY20. Based on the last five years' flow data, we predict an ~~annual-average-daily-flow~~AADF of 23.8 MGD and an ~~average-dry-weather-flow~~ADWF of 24.1 MGD for FY20.

Discharge Compliance and Permit Limits

We are pleased to report that the District has achieved full compliance with NPDES discharge requirements in FY19. USD was recognized by the National Association of Clean Water Agencies (NACWA) under their Peak Performance Award program for the 26th consecutive year. In 2019, USD received a 10th Platinum award for calendar year 2018 from NACWA, which is awarded for maintaining perfect compliance with the NPDES permit for five consecutive years.

The San Francisco Regional Water Quality Control Board adopted the second nutrient watershed permit in 2019. The watershed permit includes monitoring requirements and nutrient loading targets for permitted agencies based on the subembayments that they discharge to within the San Francisco Bay. It is expected that the information collected during this watershed permit will lead to the establishment of nutrient limits in the subsequent watershed permit in 2024. We anticipate that future changes to the ammonia limitations could require substantial improvement to the treatment plant to provide for the removal of nutrients.

The flow to the treatment plant has increased marginally in recent years and is not expected to exceed the permitted capacity of the treatment plant within our planning horizon. However, there has been an ~~an~~ more-substantial increase in the mass loading of ~~conventional pollutants and ammoniasolids~~. The District completed the Solids Capacity Assessment Study in September of 2018 to determine whether solids treatment systems have adequate capacity to treat loading of conventional pollutants expected in the future.

~~Based on the results of the study, the District conducted the Secondary Treatment Process Improvements Project to develop alternatives to accommodate increased loading of conventional pollutants expected in the future, provide for nutrient removal that will likely be required in future watershed permits, and provide for the management of wet weather flows that will be needed when the Hayward Marsh ceases operation.~~ The Secondary Treatment Process Improvements Project was completed and accepted by the USD Board of Directors in August 2019. As a result of these studies, the District has identified the Enhanced Secondary Treatment and Site Upgrade (ETSU) Project to implement the recommended alternative identified by the Secondary Treatment Process Improvements Project. Design for the ETSU project is expected to begin in FY20.

Development of Facilities Outside Union City

The District is currently participating in a reclaimed water feasibility study in conjunction with ACWD and SFPUC.

The ETSU project will not increase the flow capacity of the Union Sanitary District treatment plant. As a result, the District has no plans for the construction of additional treatment outside ~~of the City of~~ Union City.

If you have any questions or need additional information, please contact me at (510) 477-7517 or email at armandol@unionsanitary.ca.gov.

Sincerely,

Armando Lopez
Manager, Treatment & Disposal